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**When is Consumer Desire impacted by Difficulty of
Recall?: The Effects of the Type of Information,
Expectation and Time Pressure**

Thèse présentée et soutenue publiquement

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Dedication

I dedicate my thesis to my all family in Peru. A special feeling of gratitude to my loving parents, Juana and Teodoro who support me to come in France and to achieve my dreams.

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Abstract

Purpose

The purpose of this thesis is to demonstrate that difficulty in recalling past consumption of a preferred product influences the desire to consume that product. More specifically, this research aims to evaluate how desire is influenced by what kind of information from past consumption experience is recalled (semantic or episodic information) during a difficult recall task, by the expected difficulty of recall task, and by time pressure.

Design/methodology

An experimental method was adopted and three empirical studies were conducted. Hypotheses were tested on data collected across different samples: Peruvian, Chinese, and French consumers. Participants were principally university students with an age of less than twenty-five years old. A total of eleven experimental scenarios were presented to participants including different types of products (soft drinks, hedonic products, and leisure activities). Questionnaires were administrated by web and face-to-face.

Findings

In Experiment 1 ($N = 157$), the positive effect of the difficulty of recall task on desire was demonstrated when consumers recall semantic information of past experiences. Consumer desire was based on heuristic information processing. Consumers used the difficulty inference: *“it is difficult to recall, so I have not consumed a lot”*, and they feel therefore more

desire. However, when the difficulty of recall task is expected, consumers are not influenced by the difficulty inference and consequently the difficulty of recall does not have an effect on desire. It demonstrated the use of heuristic information processing during recalling. In Experiment 2 ($N = 198$), it was found that the effect of difficulty of recall on desire is not replicated when consumers recall episodic information. Based on systematic information processing, consumers are influenced by emotions, feelings of past experiences and the difficulty of recall does not trigger the use of the difficulty inference. The absence of this effect was validated across in leisure activities. Finally, in Experiment 3 ($N = 170$), the nonexistence of the effect of the difficulty of recall on desire when consumers recall episodic information was revalidated using soft drinks; nevertheless, when consumers are under time pressure and consequently depend on heuristic processing of information, desire is positively influenced by the difficulty of recall. The difficulty inference used by consumers is activated under time pressure. Likewise, the interaction effect of difficulty of recall and time pressure condition was validated. In addition, consumer desire had a positive effect on purchase intention in all experiments.

Implications

Our contribution has the potential to help marketers take action regarding the recall of past rewarding consumptions. To evoke more desire, consumers must be conditioned to difficult recalls of past consumptions of preferred products; marketers must specially focus on semantic information of past experiences and condition consumers with a time pressure. Marketers could use questions about the difficulty of recall of past consumptions in advertisements or sellers could induce consumer desire by asking them directly to recall past consumption of preferred products.

Originality

The results suggest that the type of information processed (semantic versus episodic) and time pressure influence the effect of the difficult recall of past consumption on desire. This research focuses on a holistic recall of past experiences and the retrieval process of information from memory, and confirms the Chaiken and Trope (1998)'s Dual-Process Theory.

Key Words: Desire, difficulty of recall, inference, time pressure, semantic information, episodic information, systematic processing, heuristic processing, purchase intention

Résumé

Objectif

Cette thèse doctorale cherche à démontrer que la difficulté pour un consommateur de se rappeler ses expériences passées de consommation d'un produit préféré influence son désir. Plus particulièrement, ce travail cherche à étudier comment le désir est influencé par le type d'information, sémantique ou épisodique, que l'individu se rappelle sur ses expériences passées de consommation pendant une tâche de rappel difficile, ainsi que par la difficulté attendue de la tâche de rappel et par la pression du temps.

Design/méthodologie

Nous avons retenu une méthode expérimentale et avons conduit trois études empiriques. Les hypothèses ont été testées à partir de données collectées de trois échantillons différents : des consommateurs Péruviens, Chinois et Français. Les participants sont principalement des étudiants universitaires, âgés de moins de vingt-cinq ans. Un total d'onze scénarios expérimentaux ont été présentés aux participants, incluant divers types de produits (boissons rafraichissantes, produits hédoniques et activités de loisir). La collecte de données s'est faite au travers de questionnaires web et en face-à-face.

Résultats

L'expérimentation 1 ($N = 157$) a démontré l'effet positif de rappel sur le désir lors que les consommateurs se rappelaient des informations sémantiques d'expériences passées. Le désir

du consommateur était basé sur des traitements heuristiques d'information. Les consommateurs ont mobilisé l'inférence de difficulté selon laquelle « *si je me rappelle difficilement c'est parce que je n'en ai pas beaucoup consommé* » et ils ont ainsi eu davantage du désir. Cependant, lors que les consommateurs anticipent la difficulté de rappel, ils ne sont pas influencés par l'inférence de difficulté et par conséquent la difficulté de rappel n'a pas d'effet sur le désir. L'expérimentation 2 ($N = 198$) a permis de démontrer que la difficulté de rappel n'a pas d'impact sur le désir dès lors que les consommateurs se sont rappelés d'information épisodique. Fondés sur un traitement systématique, les consommateurs sont influencés par les émotions, les sentiments d'expériences passées et la difficulté de rappel ne déclenche pas l'utilisation de l'inférence de difficulté. L'absence de ce effet a été confirmée par les activités de loisirs. Enfin, par l'expérimentation 3 ($N = 170$), la non-existence d'effet de la difficulté de rappel sur le désir lors que les consommateurs se rappellent d'informations épisodiques, a été reconfirmé avec des boissons rafraichissantes ; cependant, quand les consommateurs sont sous la pression du temps et mobilisent donc un traitement heuristique de l'information, le désir est influencé positivement par la difficulté de rappel. L'inférence mobilisée par les consommateurs est activée sous la pression temporelle. De même, l'effet d'interaction de la difficulté de rappel et la condition de pression du temps a été validé. Aussi, dans toutes les expérimentations, le désir de consommer a eu un effet positif sur l'intention d'achat.

Implications

Notre contribution peut aider les professionnels en marketing à agir en prenant en compte le rappel des consommations gratifiantes passées. Afin d'évoquer davantage de désir chez le consommateur, les conditions devraient rendre difficile le fait pour celui-ci de se rappeler ses expériences gratifiantes de consommation passées ; les marketeurs devraient se focaliser

notamment sur l'information sémantique des expériences passées et soumettre le consommateur à une pression temporelle. Les marketeurs pourraient utiliser des questions sur la difficulté de rappel d'expériences passées dans les publicités ou les vendeurs pourraient induire le désir du consommateur en leur demandant de se rappeler directement de consommations gratifiantes passées.

Originalité

Les résultats indiquent que le type d'information traitée, sémantique ou épisodique, et la pression du temps, influencent l'effet de la difficulté de rappel des consommations passées sur le désir. Cette recherche se focalise sur un rappel holistique d'expériences passées et sur le processus de récupération d'information à partir de la mémoire, et confirme la théorie du processus dual de Chaiken et Trope (1998).

Mots clés: Désir, difficulté de rappel, inférence, pression temporelle, information sémantique, information épisodique, traitement systématique, traitement heuristique, intention d'achat.

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GENERAL INTRODUCTION

Research Context

Imagine the advertising of a preferred product which is consumed in an irregular way (e.g. chocolate or cookie) showing you firstly a consumption experience in order to make you visualize rewarding proprieties of such a product, and afterwards, the advertising asks you “recall the last three times that you consume this product”. What will be the impact of such recalls on your desire? If you find difficult to recall past consumption of this preferred product, could you deduce that you have not consumed it too much? And consequently, because it is a product that you like, do you feel more desire for that product now? When you are recalling past consumption of that product, how does the type of recalled information (semantic or episodic) of that product influence the desire to consume? And if you are under time pressure, how would this condition influence your desire when it is difficult to recall past consumption of the product? In our research, we are interested in studying the influence of the types of information recalled from past consumption and the time pressure on the relationship between difficulty of recall and desire.

Desire is the engine of human motivation. Desire is the source of our life energy (Lacan, 1992). Whether it is for food, drinks, love, fame, a social link, status or world peace, desires shape the daily life of individuals. In marketing, the desire for a product is stimulated by advertising, which attempts to give buyers a sense of lack or wanting. Desire can be created by exclaiming, for example, “are you still wearing that old jacket?” or by associating the product with pleasurable attributes, for example, by showing a celebrity or attractive models using the product. In store retailing, merchants attempt to increase the desire of the buyer by showcasing the product attractively, for example by offering samples of clothes, jewelry, food, or perfume in the stores. In summary, arousing desires in consumers is one of the principal objectives of marketers in order to increase sales. Desires to possess, use, experience products lie at the heart of consumer behavior (Dholakia, 2015)

The notion of desire is among the concepts that are fundamental to human existence; therefore it has been discussed extensively. In philosophy, desire has been examined by the most important philosophers such as Plato, Epicure, Descartes, Spinoza, etc. In science, the literature reviews show us that desire has been discussed in its various distinctive aspects (e.g. psychological vs. physiological, cognitive vs. affective, conscious vs. unconscious, etc). Considering such different conceptual propositions in the literature, we define desire as a conscious and controllable cognitive (psychological) state, that motivates an individual to react to a stimulus (object, individual or experience) that is expected to be affectively rewarding (Kavanagh, Andrade and May, 2005; Papies and Barsalou, 2015). Desire is triggered by feeling of deficit of an expected rewarding experience (Kavanagh, Andrade and May, 2005). Past research about how to persuade the consumer choice for products principally focused on preferences, attitudes, and satisfaction. Our interest in desires is due to its high degree of volatility; desire can be totally contextual and can depend a lot on the created imagery of individuals. Desire is a feeling born consumption imagination and situational contexts (Belk, Ger and Askegaard, 2000; 2003).

Research Background

Empirical studies in marketing about desire have been focused on self-control (Dholakia et al., 2006; Redden and Haws, 2013); where desires diminish faster over time for consumers with higher self-control than those with lower self-control. Moreover, desire also diminishes when experienced and resisted as a promotion focus rather than a prevention focus (see Regulatory Focus Theory, Higgins, 2000). Other studies about desire have focused on the length of non consumption (Dai and Fishbach, 2014), demonstrating how desire is increased by longer non consumption in the absence of substitutes (including a lack of liking and consumption intention), but decreased in the presence of salient substitutes. Finally, studies have also focused on the affective (e.g. pleasure, discomfort, or guilt) and cognitive (e.g.

control) responses that accompany the experience of desire (Boujbel and d'Astous, 2015). Despite these researches, no studies have been made about how desire can be influenced by the information processing (i.e. systematic or heuristic) of past experiences. Systematic processing refers to elaborated, conscious recalling of past experiences, whereas heuristic processing corresponds to the unconscious, rapid and inferential recalling of past experiences. Systematic-Heuristic processing belongs to the general theory of Dual-Process Theory (Chaiken and Trope, 1999). Past experiences refers to rewarding experiences of consumption.

Problem Identification

The causal relationship between the systematic processing of past experiences and desire could be explained by theories such as Kavanagh, Andrade and May (2005)'s Elaborated Intrusive Theory of Desire and also Papies and Barsalou (2015)'s Grounded Theory. Recalling systematically past experiences could help consumers to simulate rewarding experiences through the vividness and richness of mental imagery. However, desire could also be influenced by the heuristic processing of past experiences. Using inferences in recalling past experiences could be an influential factor in triggering desire. Given that desire depends on the feeling of deficit (Kavanagh, Andrade, and May, 2005), we propose that the processing difficulty of past experiences would impact desire through the difficulty inference (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kaneman, 1973). For example, if it is difficult for me to recall when I last consumed a certain product, I would think that I did not consumed it a lot. Then because I will have a feeling of deficit, I will feel more desire. Difficulty inference, accessibility inference, availability heuristic or "ease of recall" inference are interchangeable terms.

Difficulty inference, a topic that has been broadly studied in social sciences, is described as the mental shortcut that relies on the difficulty of access to information when individuals evaluate or judge an object, person or situation. This difficulty inference operates on the

notion that if something is recalled with difficulty, it must not be important or frequent (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kahneman, 1973). In the case of recalling past experiences, individuals must tend to believe that they have not experienced a lot. Empiric studies in marketing have demonstrated that the difficulty inference is used by consumers and that it has an effect on the evaluation of a product. This effect can be negative, for instance when the difficulty in recalling positive properties of a certain product diminishes the attractiveness of such a product (Menon and Raghurir, 2003). Likewise, the difficulty of selecting a product increases the possibility of deferring the purchase of such a product (Novemsky et al., 2007). Moreover, the difficulty in processing experiential attributes reduces the positive evaluation of the product (Brakus, Schmitt, Zhang, 2014). However, the use of difficulty inference can also positively impact the evaluation of a product. For instance, the meta-cognitive difficulty increases the attractiveness of products by making them appear exclusives or unique (Pocheptsova, Labroo and Dhar, 2010).

Interest and Research Questions

In this research, we are interested in knowing how the difficulty in recalling past rewarding experiences impacts desire. More specifically, we are interested in knowing how the type of information processed can impact desire. This means that processing specific knowledge (semantic information like a date or place) of past experiences could impact the feeling of deficit and desire in different ways rather than the processing of episodic events (episodic information like emotions, feeling). For instance, if I recall when or where I consumed a product, I could be directly influenced by the difficulty to recall. However, if I recall past episodic experiences, I could be influenced by emotions and it would influence the relationship between the processing difficulty and desire. We argue that desire will be influenced by how past experiences are recalled (systematic or heuristic processing) and what kind of information from past experiences is recalled (semantic or episodic information).

We are also interested in some other conditions that can influence the relationship between the processing difficulty and consumption desire. Firstly, we study the effect of processing difficulty of past experiences on desire when such processing difficulty is expected. The interest in analyzing this relationship is due to the fact that the difficulty inference depends on expectations (Whitlessea and Williams, 2000). This means that individuals who expect information processing to be difficult do not infer that such difficulty is due to a lack of consumption, but because the process is difficult itself. Secondly, seeing that the constraint of time is an exogenous variable that permanently influences a decision making, we are also interested in analyzing the effect of time pressure on the relationship between the difficulty of processing and desire. When under time pressure, consumers have a limited-capacity for processing information and consequently they have the tendency to use inferences in their choices. For example, consumers are more likely to infer the relationship between high price and high quality when they are under pressure of time (Suri and Monroe, 2003).

RQ1: What is the role of the type of information (semantic versus episodic) in the relationship between the difficulty in recalling past consumptions of a product and the desire to consume (and purchase intention) that product?

RQ2: How the relationship between the difficulty in recalling past consumptions and desire (and purchase intention) is influenced by the expected difficulty of recall task?

RQ3: How the relationship between the difficulty in recalling past consumptions and desire (and purchase intention) is influenced by time pressure?

Research Objectives

In the current research, we aim to demonstrate the effects of recalling difficulty on desire in different conditions through three experiments. Firstly, when individuals process semantic

information (when they have consumed) of past rewarding experiences, they will be influenced by difficulty inference and such processing difficulty will have a positive effect on desire; however, when such difficulty is expected, such an effect will not exist. Secondly, when individuals process episodic information of past rewarding experiences, they will not be influenced by the difficulty inference and the processing difficulty will not impact desire; however, when individuals are under time pressure, processing difficulty will positively influence desire. Finally, in all cases, desire has a positive effect on purchase intention.

Research Architecture:

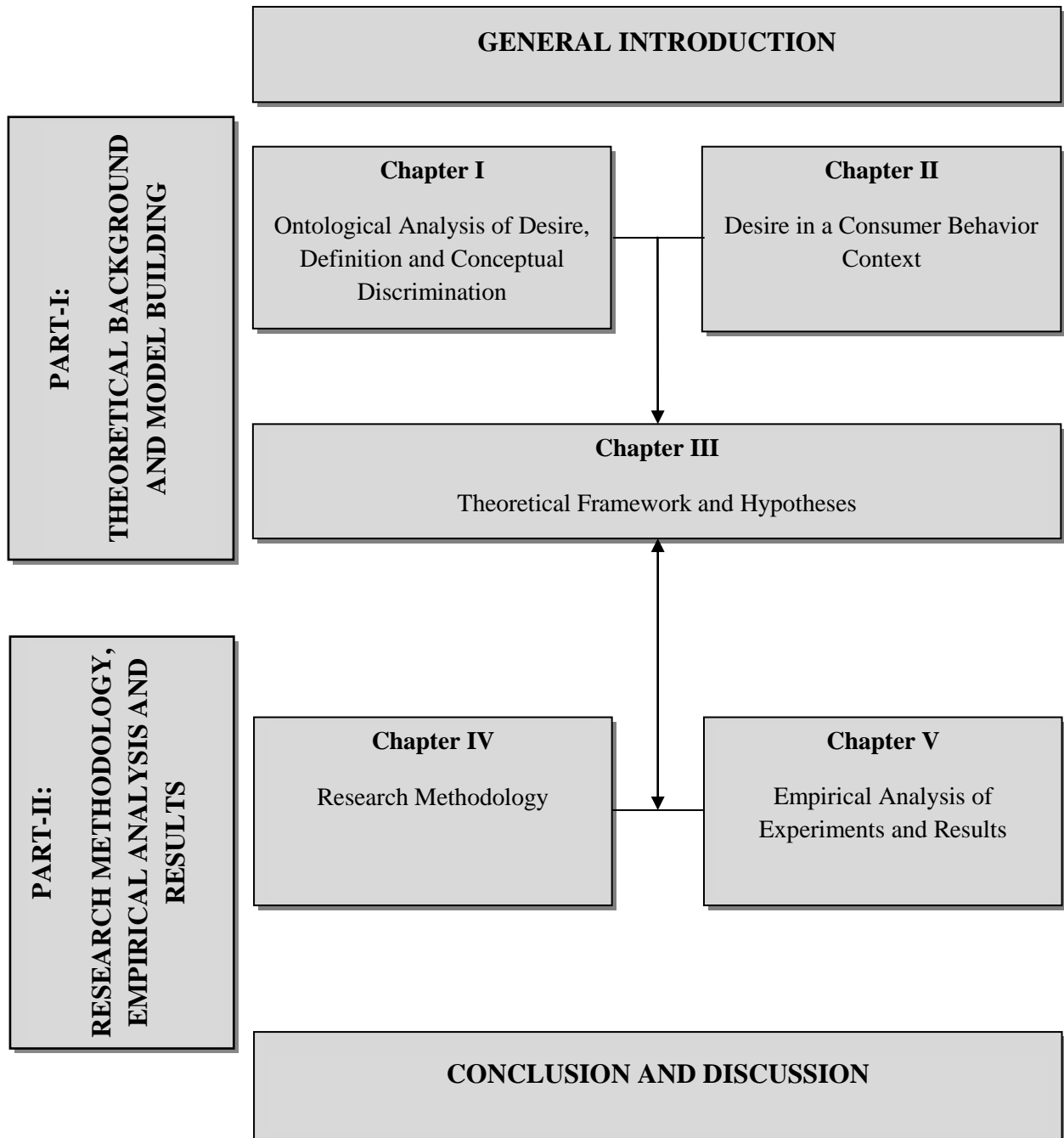
Our research is organized in five chapters divided in two parts. The first part includes three chapters on the theoretical framework and the hypotheses and model of research. The brief layout of the chapters in the first part is as follows:

- The first chapter will focus on the definition of the notion of desire. For this we will firstly review philosophical works about desire from Plato to Freud by identifying the thoughts and contributions of each philosopher. Next, we will revise the literature of scientific works that propose a definition of desire in order to analyze the different aspects of desire. Finally, we will define our notion of desire and we will realize a conceptual discrimination with other closed concepts such as attitude, preference and temptations.
- The second chapter will focus on the marketing context of desire. We will present how advertising impacts the consumption desire of individuals and what aspect of products individuals desire to consume. Finally, we will describe some situations in choice processing where desire for products is present.
- The third chapter is the principal construction of ideas in order to argue our answers to the research questions. Firstly, we will show the theories of desire that have been

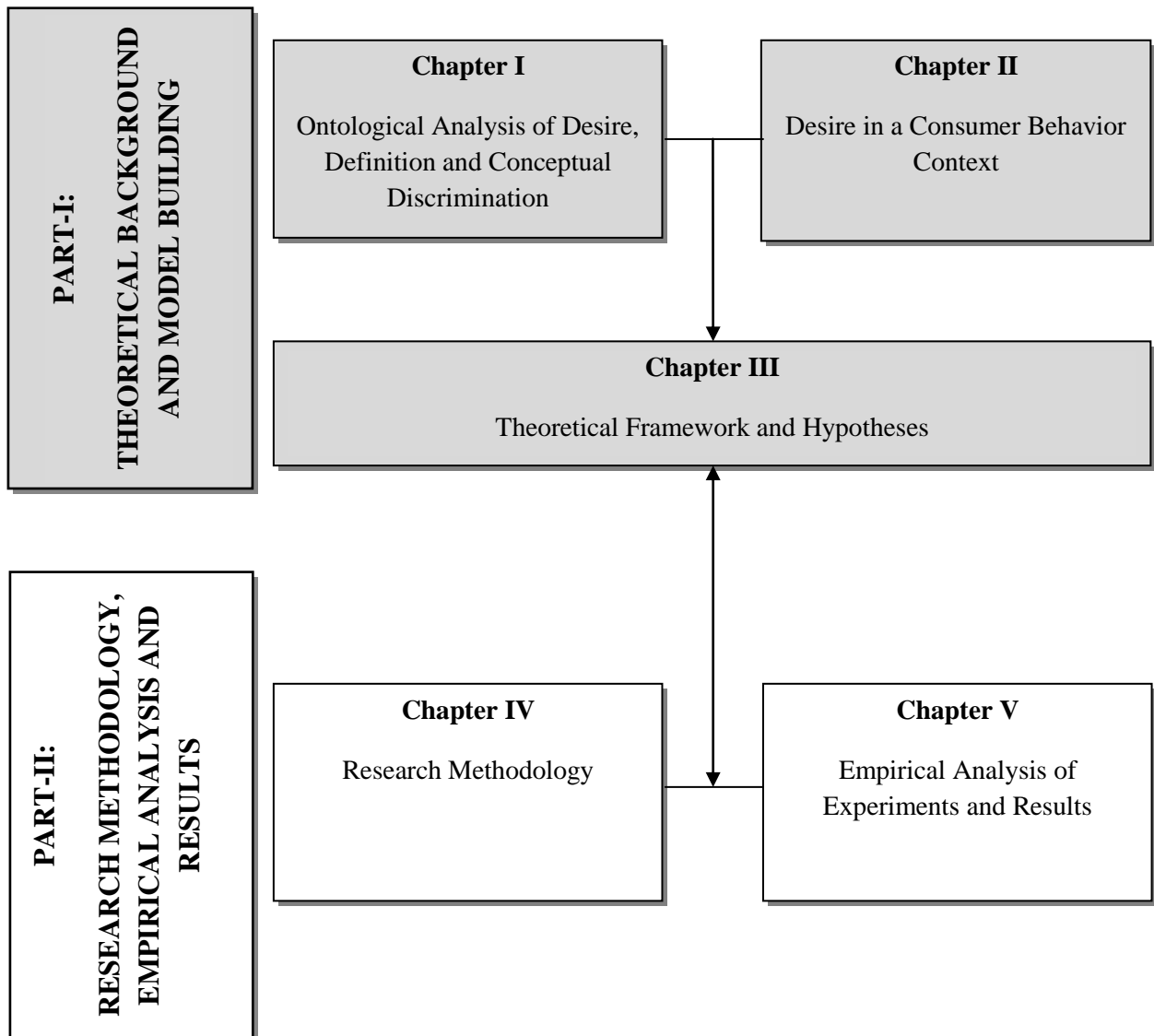
proposed by researchers and we will identify the principal antecedents of desire with a relevant importance for our studies. Secondly, we will analyze the conditions that influence the relationship between the processing difficulty and desire. We will finalize this chapter with the proposition of our hypotheses.

The second part will consist of two chapters that will be devoted to the methodology, the empirical study, and the results. Following is the chapters' overview:

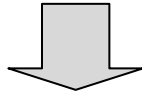
- The fourth chapter will explain the positioning of research on the epistemological level and design research. Then the implementation of the empirical study will be presented. It will include three experiments.
- The fifth chapter will include the results of the research. It will consist of the results of each experiment to investigate the effect of processing difficulty on desire 1) when individuals evaluate the semantic information of past rewarding experiences; 2) when the episodic information of past rewarding experience are evaluated by consumers; and 3) when time pressure is conditioned to consumers. The results will be distilled to validate the hypotheses.



PART I: THEORETICAL BACKGROUND AND MODEL BUILDING



PART-I:
**THEORETICAL BACKGROUND AND
MODEL BUILDING**



Chapter I
**Ontological Analysis of Desire, Definition and Conceptual
Discrimination**

Section 1: Etymology and Philosophical Aspect of Desire

Section 2: Scientific Aspect of Desire

Section 3: Definition of Desire

Section 4: Conceptual Discrimination of Desire

Chapter II
Desire in a Consumer Behavior Context

Section 1: Advertising and Desire

Section 2: Desire for Hedonic Products

Section 3: Post Consumption and Desire

Chapter III
Theoretical Framework and Hypotheses

Section 1: Theories of Desire.

Section 2: Recall of Past Experiences and Desire

Section 3: The Construction of Desire: Heuristic Processing

Section 4: Conditions of the Relationship between Difficulty of Recall and Desire

Section 5: Desire and Behavior.

Section 6: Hypotheses.

CHAPTER 1: ONTOLOGICAL ANALYSIS OF DESIRE, DEFINITION AND CONCEPTUAL DISCRIMINATION

Introduction of Chapter I

The concept of desire is rapidly expanding in Marketing. The main purpose of this chapter is to present a definition of desire. Following this, the chapter consists in four parts:

The first part of this chapter provides the etymology and the philosophical aspect of the concept of desire. It begins with the origin of the word “desire” and then, since the notion of desire is among the concepts that are fundamental to human existence, we show a short review of some philosophers that examined this concept.

In the second part of this chapter, we present a literature review of desire and all its distinctive aspects in order to gain deep understanding about the concept and to know of what we speak. We compare aspects of desire such as psychological versus physiological, cognitive versus affective, conscious versus unconscious, etc.

The third and fourth parts are dedicated to the definition of desire including all aspects reviewed in the literature and to the conceptual discrimination of desire. We position our concept of desire through a comparison with other close concepts such as preference, attitude and temptation.

Section 1: Etymology and Philosophical Aspect of Desire

The word *desire* came from the French word “*désir*” (noun) or “*désirer*” (verb). However, the origin of the word “*désirer*” is further embedded in the Latin language, precisely, derived from the Latin word “*desiderare*”, that means to cease to see, regret the absence of, hence to seek, to desire: *de-* (away) from + *sidus*, a star, *sider* + *inf* suffix *-are*: *desiderare* (Partridge, 2006, p. 777).

In philosophy, the notion of desire is among the concepts that are fundamental to human existence, hence has been discussed extensively. For example, love of food, money, acquisitive greed, concupiscence, or lust for power are all desires experienced every day by people, and have been debated by great philosophers. For this reason, desire has been registered as a concept having a philosophic character. Humans could not make a sense of their life without exploring, questioning, scrutinizing or rationalizing the concept of desire. In the following paragraphs, we describe the contributions of each philosopher on desire based on the Begorret-Bret’s (2011) work.

Plato was the first philosopher who examined the notion of desire. He explained in his book “The symposium” that desire has multiple avatars, such that it depends on the people and also on the object. Among the diversity of desires, Plato found some invariable characteristics, which are: desire is a move (i.e. it is drawn by an impulsion towards a desired object), desire is an effect of a painful sensation or suffering from emptiness or lacking, and desire aims its own disappearance (as it aims to eliminate its cause: the feeling of emptiness). For instance, the hunger aims to satiation. Moreover, Plato sustained that the body does not have desires. He emphasized the role of imagination and mind in the desire. Also, Plato emphasized the substantial function of emptiness in desire. He purposed that emptiness evokes desire when is accompanied by the three types of characteristics. Firstly, people have to consider this emptiness as a deprivation. If people do not identify the mere absence as a real deficiency,

they will desire nothing. For example, individual can desire a new car only if he or she feels devoid of car. Secondly, people must consider this lack as a cause of suffering. For example, people who desire a car, it is necessary for them to perceive that their life without it is miserable. Thirdly, people must believe that only a desired object can fulfill the void they have. For example, “here is the car that I was missing”. Finally, Plato presented desire as an endless cycle. The desire has its source in a void that a person seeks to fill and once he/she achieves the satisfaction, the emptiness reappears with time. The desire, however, can result in confliction; it can give immediate pleasure to a person but later may cause pain. Thus, pain and pleasure can be experienced simultaneously in the satisfaction of desire.

On the other hand, Epicure proposed that desire of pleasure has a central place in the human’s life. Happiness is achieved by realizing desires and drawing pleasure from them. Pleasure given by satisfaction of desires is a fundamental wellbeing. The desire is a natural and vital force. However, all desires cannot be satisfied at the same time. They can contradict each other. Moreover, the satisfaction of desires is not absolute because it can also be a source of suffering. Desires like hunger and thirst are easy to satisfy. However, desires that are non-natural and dispensable are difficult to realize. Happiness is achieved by satisfying desires, until repletion.

Another philosopher that examined the notion of desire is Descartes. He initially considered that numerous impulses, generally called “desires”, are more physiological than psychological. He presented several reasons that such “desires” are not associated with the mind. First, “desires” are common among humans and animals. Second, for him, “desires” are like appetites, and thus do not mind to function. And third, such physiological impulses or “desires” are not voluntary. In this way, Descartes rejected “desires” as veritable desires. He agreed with the work of Plato, and indicated that ideas, images, thoughts are necessary for the desire to exist. Now viewing desires as a psychological process, Descartes distinguished

himself from Epicurean school of thought, where desire is a material phenomenon and represents emptiness in the body. Descartes considers that the desire is a type of thought. Descartes affirm that humans can desire even if they are not aware of their body. Also, for him, desire is a passion that is dynamic and orientated toward the future. The desire can be distinguished from love, as love lives in the present. Moreover, Descartes proposes that desire is closely tied to the reason, as one desires what he/she perceives and believes that the realization is possible. At the source of desire, there is a judgment about the probability to satisfy the aspirations. Finally, Descartes also affirms that the cause and the strength of the desire depend on how frequently one associates himself or herself with what is desired.

Among the philosophers that examined the notion of desire, Spinoza, dedicated his life to think and work on the ethics and the consciousness of human actions. He affirmed that “desire is the very essence of man... we do not desire something because it is good; it is good because we desire it”. Moreover, Spinoza proposes that desire is an appetite with a consciousness in itself. Desire is conscious because it is accompanied with ideas. The consciousness brings to light the fact that physical and intellectual aspects play parallel role in desires. Unlike the Cartesian’s idea of an interaction between mind and body, Spinoza believed in parallelism.

Finally, Freud admitted the existence of unconscious desires, which are at the very source of human behaviors. The fundamental human desire is the search of pleasure at all costs. Desires escape the command of consciousness and are not subject to logic or material rules of the reality. Desire does not take into account the evolution of circumstances and time. Desires have both blind and muted logic to the reality. For Freud, desires are moved by the principle of pleasure and not by the principle of reality. On one hand, the reality principle is the one that governs consciousness. To obey the principle of reality one can regulate desires according to actual needs. On the other hand, the pleasure principle is based on the idea of

acquiring satisfaction of all kind, at any cost or whatever the circumstances. Finally, Freud also affirmed that the desire is not an immutable reality. If individuals cannot satisfy all their desires, they find substitutes.

To sum up, desire is a lack (as Plato said) that can come from the body (as Epicure said) or from the mind (as Descartes said), that can be conscious (as Spinoza said), or unconscious (as Freud said). If humans desire something or someone it is understood that it would be a source of possible satisfaction.

Section 2: Scientific Aspect of Desire

In science, desire has been principally studied in the field of psychology. Following, we discuss various distinctive aspects found in the literature.

Psychological vs. physiological: Desire refers to the psychological experience of motivation that includes mental representations of appetitive objects or activities (Papies and Barsalou, 2015; Salkovskis and Reynolds, 1994). The feeling of desire starts with information processing of appetitive stimuli with which individuals are exposed or on rumination of past rewarding experiences (Kavanagh, Andrade, and May, 2005). For example, observing people eating an ice cream may make one desire to eat ice-cream or the rumination of the great past experience in Walt Disney may invoke certain desire for re-experiencing. Memory may also play a role in the desire. Individuals simulate future rewarding experiences based on past experience stored in memory (Kemps and Tiggeman, 2007). For example, feeling desire for ice cream means that individuals retained past consumption experience as pleasurable and appetitive. When individuals desire for an object or activity, they expect a rewarding experience based on the positive emotion they have associated with it in past. Simulating appetitive experiences in the mind also generate positive emotions in individuals (Papies and Barsalou, 2015). For example, the individual imagining a delicious taste of a strawberry ice-cream may feel positive emotion. Individuals process attributive information of exposed stimulus, and they have a tendency to associate such information with pleasant past experiences. Such associations with the stimulus generate expected emotions from a future experience.

In contrast, the physiological aspect of desire refers to a causality relationship. Desire can be strongly caused by physiological deficits such as hunger, thirsty, or sleep, and it can induce pre-consummatory responses such as salivation (Kavanagh, Andrade and May, 2005). However, even if awareness of pre-consummatory physiological responses can intensify

desire for consumption, the feeling of desire only represents a mental/psychological state. For example, feeling thirsty can activate the need to drink, but it can be accompanied with the desire for a delicious and fresh coca cola.

Affective vs. Cognitive: Desire is an interplay of the heart (affective) and the mind (cognitive) (Boujbel and d'Astous, 2015; Irvine, 2007; Kavanagh, May and Andrade 2005). More precisely, desire is an affectively charged cognitive event (Kavanagh, May and Andrade 2005). In the cognitive aspect, people process information of stimuli's attributes in the environment and associates them to the past desirable experiences. For example, advertisement information about chocolate is processed by individuals in making them think of consuming a delicious one. Individuals construct images in their mind to represent desirable objects, subject or experiences. Desire for something involves a construction of appetitive experiences as mental images in the mind of individuals (Kavanagh, Andrade, and May, 2005; Papies and Barsalou, 2015). For example, imaging driving a new car incites individuals to feel a desire for buying this car. This cognitive dimension refers to a mental process underlying desire but not to cognitive or rational evaluations of desirable or appetitive stimuli as in the case of attitude or satisfaction.

The affective aspect of desire includes individual's emotions. Appetitive stimuli generate sensory images in the mind of individuals. Visualizing consumption experiences in the mind or having a picture in one's head can produce feelings and emotions in individuals (Belk, Ger and Askegaard, 2000, 2003; Kavanagh, Andrade, and May, 2015). For example, when buying a new video game can make a child simulate a future experience of playing with it, and will make him feel strong emotions. Individuals can also associate a non-desirable stimulus in the environment to a past rewarding experience (Kavanagh, Andrade, and May, 2015). They not only feel emotions when exposed with the desirable elements related to great experiences but also with the stimuli that may not instigate a desire. For example, going out with friends and

sharing personal anecdotes with them can be associated to drinking alcohol or smoking cigarettes.

Despite the fact that desire relies on cognitive processes as storing, elaborating, and perceiving information, the principal characteristic of desire is the affective dimension. Individuals simulate appetitive experiences and it makes them feel strong emotions (Boujbel and d'Astous, 2015; Hoffman and Van-Dillen, 2012; Kavanagh, Andrade, and May, 2005).

Conscious vs. Unconscious: Desire refers to a conscious cognitive state of individuals when they are exposed to relevant affective stimuli. Individuals are aware of external stimuli when they experience desire (Dholakia, 2015). For example, the awareness of individuals is active when they are exposed to an appetitive pizza. Individuals are also aware of internal processes related to reactions stimulated by the exposition to appetitive objects. These internal processes refers to psychological (e.g. emotions) and physiological (e.g. salivation) aspects (Kavanagh, Andrade, and May, 2005). For example, individuals are aware of the affective state when they desire a soda after a football game. Individuals experience desire having a sense of selfhood. For example, being aware of experiencing desire for smoking a cigarette means being able to think about the consequences of this act.

However, even if desire refers a conscious state of an individual, the unconsciousness can activate it. The unconsciousness aspect of desire involves automatic processing of information of appetitive objects in the mind, i.e. the information is not available for individual's introspection (Kavanagh, Andrade, and May 2005). Also at the unconscious level, mind uses cognitive resources to process information. Individuals are able to automatically use inferences to process attributes of appetitive objects as result of learning or practice (Kavanagh, Andrade, and May, 2005). For example, the association of break from work with the desire of taking a coffee can be the learning from past individual or social practices. The repetition or habit also is important in the automaticity of processing of information (Aarts

and Dijksterhuis, 2000). For example, being in the same supermarket with the same ambiance and finding products in the same place can activate habitual desires for consuming such products. The unconsciousness aspect of desire would be also related to implicit memory and knowledge of individuals. It means that the accumulation of previous experiences influences the desire without the awareness of such experiences.

Positive vs. Negative Experience: Although, desire refers to a positive event (Fridja, 1985), experiencing desire may have negative elements as well, such as discomfort and guilt (Boujbel and d'Astous, 2015). Positive experience of desire involves pleasant moments and emotions in the simulation of rewarding experiences. Individuals imagine and elaborate in their mind the pleasant experience with the stimulus, and consequently they feel positive emotions (Kavanagh, Andrade, and May, 2005). For example, experiencing desire for eating a cookie may make individuals feel delighted and happy when they consume that cookie. However to be clear, our research doesn't concern the negative experiences individuals associate with an object, because in that case such negative memories do not instill desire. For example, if individuals are ruminating on past experiences regarding an object, they would not only recall rewarding experiences but also deplorable experiences that can eliminate desire overall.

Moreover, the process of realizing the desire can also make individuals feel negative emotions. Such as individuals who are aware of the deprivation of the object may tend to experience discomfort and aversion (Belk, Ger, and Askegaard, 2003; Boujbel and d'Astous, 2015; Kavanagh, Andrade, and May, 2005). For example, the non-availability of cigarettes makes individuals feel anxious and desperate for smoking. Also, the time lag between the experience and the realization of desire also makes individuals feel negative emotions. Long withdrawals are usually not convenient for the individuals in the desire experience. For

example, enduring waiting in a long queue for buying a cinema ticket in order to watch a supposed extraordinary film can make an individual experience a detestable moment.

In this sense, the desire experience refers principally to positive emotions experienced from the simulation of rewarding and appetitive objects but when the absence of this reward is enduring and perceived by individuals, the desire experience could also make individuals uncomfortable.

Vary over time: Desire is dynamic (Dholakia, 2015) and recovering from satiation (Redden, 2015), the future desire will be different from the current one (Loewenstein and Schkade, 1999). The desire for an object with which individuals are exposed changes over time (Dholakia, 2015). It is a natural characteristic of Humans to feel satiation towards desirable objects after repetitive expositions or consumption (Helson, 1964; McSweeney and Murphy, 2000; Redden, 2008; Thompson and Spencer, 1966). Satiation refers to the process of loss of pleasure from a product because of repetitive expositions (Redden, 2008). And according to a cognitive approach, satiation involves the feeling of presence in the individuals' mind when they simulate rewarding experience with appetitive or desirable objects. For example, an individual, who recently consumed an ice-cream, if being exposed to it again would feel less desire for an ice-cream because of psychological phenomenon of satiation. Desire not only changes in the degree but can also disappear in some situations, or even be reverted leading to the point when individual disgusts the object (Redden, 2015). After a long period of continuous consumption of a same product, individuals may feel no desire for such a product. For example, individuals who listen to the same song (initially loved) repetitively, will reach to the point where they will detest it and will change the radio channel when the song appears.

The principal factors that matter in the variability of desire for appetitive products involve frequency, recency and variety (Redden and Galak, 2013; Redden, 2015). The number of times the consumption of appetitive objects is repeated plays an important role in the feeling

of desire. If the frequency of consumption is high, then the desire will be low (but when the consumption has been repeated several times initially, because desire is at its peak in the beginning). Similarly, the degree of desire varies with the temporal distance of the last consumption of an appetitive object. If the recency of consumption is high, then the desire will also be low as it was in the case of frequency. Finally, the variety of an object previously consumed can also influence the degree of desire. For example, individuals provided with a single candy show less desire than those who with a bowl full of a variety of candies (Galak et al., 2009).

Intensity: Desire can be strong (passion) (Belk, Ger, and Askegaard, 2003) and can vary in its intensity (Boujbel and d'Astous, 2015, Dholakia, 2015). “*We burn and are aflame with desire; we are pierced by or riddled with desire; we are sick or ache with desire: we are tortured, tormented, and racked by desire: we are possessed, seized, ravished, and overcome by desire; we are mad, crazy, insane, giddy, blinded, or delirious with desire; we are enraptured, enchanted, suffused, and enveloped by desire; our desire is fierce, hot, intense, passionate, incandescent, and irresistible: and we pine, languish, waste away, or die of unfulfilled desire*” (Belk, Ger, and Askegaard, 2003). In this phrase the authors refer to desire principally as an affective state that is very powerful and dominates the reason of the individuals, thus curbing the individuals’ freedom. For example, the incommensurable desire of women for chocolate during the perimenstrual period (Hormes and Rozin, 2009). This conceptualization of desire is similar to the passion considered as a strong feeling or intense emotion for a person or thing. Feeling strong desires have some principal characteristics as uncontrollable and impulsive. Self-control of individuals can be defeated by desires, if the desires are extremely strong (Hofmann et al., 2012). In the same way, impulsive decision can be led by emotions and motivations resulting of strong desires during the exposition of appetitive objects.

Unlike this notion of desire as strong emotions (e.g. passion, craving), in this research, we refer to desire as a controllable affective state where the desire does not overtake the rationality of the individual. For example, when desire for a soda involves that the individual can control and defer his or her thirst; the feeling of desire is not extreme. We also consider that individuals are conscious of the feeling of desire and they are able to evaluate the consequences of the consumption of desirable objects. For example, individuals are conscious of their desire for beer and also can consciously evaluate the negative consequence of drinking a lot of alcohol.

Goal vs. no-goal: Desire is a necessary antecedent of the consumer's intentions to achieve a goal (Dholakia, 2015; Perugini and Bagozzi, 2004). Desire can pursue higher-order goals and be a concrete mean to achieve them (Bagozzi and Dholakia, 1999). Desiring an appetitive object means that individuals simulate rewarding experience with such an object. It means that the object has intrinsic properties with which individuals find pleasure and agreeable experiences (Belk, Ger, and Askegaard, 2003). For example, individuals consume an ice cream because it is sweet, fresh, etc. they seek such properties while consuming that product. Similarly, individuals can also desire objects because they are a mean to achieve desirable experiences. For example, individuals can desire a football because of the pleasure they find while playing football with friends. Thus, we can conclude that desire can be a mean or an end.

Section 3: Definition of Desire

In our research, the conception of desire is based on several aspects. We have considered desire as a conscious and controllable cognitive (psychological) state (Kavanagh, Andrade, and May, 2005; Papies and Barsalou, 2015), that motivates an individual to react to a stimulus (object, individual or experience) that is expected to be affectively rewarding. However, we also confine the degree to which individuals react to and expect desire, i.e. to a moderate level, so that we can differentiate desire from passion in our study. Also, we assume that the desire for a particular stimulus pertains to its intrinsic properties.

Desire is triggered by a feeling of emptiness, produced by created images, of an expected rewarding experience (Kavanagh, Andrade, and May, 2005). Such mental images result from the cognitive simulations, an individual experience when one is exposed to the stimulus. Desire for a stimulus can vary over time depending on the frequency, recency or variety of past experiences (Redden, 2015). However, even if the experience with the desirable stimulus is expected to be positive, it can bring negative emotions or experiences if the process of materializing the desire is enduring in itself (Boujbel and d'Astous, 2015; Kavanagh, Andrade, and May, 2005). The causes and consequences of desire will be discussed later in another chapter, when we construct our research model based on the relevant theories.

Section 4: Conceptual Discrimination of Desire

Desire is different from concepts such as attitude, preference and temptation. Attitude is an overall evaluation that expresses how much one likes or dislikes an object, issue, person, or action (Petty, Unnava and Strathman, 1986). Desire, however, is an internal motivation initiated by an exposed stimulus. Also, attitude tends to persist over time whereas desire varies over time (Redden, 2015). For instance, a consumer can have a positive attitude toward a product but without having the desire to consume it instantly. A stimulus can evoke either a positive or negative attitude toward it; however, in the case of desire, it will always evoke a positive valence.

Preference, however, is a process in which an evaluative judgment (liking or disliking an object) (Scherer, 2005) leads to an optimal choice. Contrarily, desire is a motivation resulting from an internal simulation and expected reward (Papies and Barsalou, 2015). Preference is often considered in a context of decision-making (Lichtenstein and Slovic, 2006; Weber and Johnson, 2006), whereas desire can result with a simple exposition to the stimulus.

Finally, temptation is a desire in the context of self-control; a force that appears when there is a conflict between the desire and the goals. Usually, temptations interfere with the important long-term goals (Fishbach, Friedman and Kruglanski, 2003; Hur, Koo and Hofmann, 2015) of an individual and results in psychological discomfort. For example, when individuals with the goal of losing weight are tempted with ice-cream, they experience an internal conflict. In this way, temptations are desirable in the short-term but detrimental in the long-term (e.g. tasty but unhealthy, entertaining but time-wasting; Fitzsimons, Nunes, and Williams 2007; Giner-Sorolla 2001; Ramanathan and Williams 2007).

Summary of Chapter I

In this chapter we provided the definition of desire for this research, in this chapter.

Section one firstly reviews the etymology of the word “desire”. Desire derived from the Latin word “desiderare” which means to cease to see, regret the absence of, hence to seek. Secondly, philosophic works about the concept of desire were reviewed in order to broadly examine the nature of the concept. Desire is a lack (as Plato said) that can come from the body (as Epicure said) or from the mind (as Descartes said), that can be conscious (as Spinoza said), or unconscious (as Freud said).

Section two focused on the scientific aspects of concept “desire”. We reviewed empirical and theoretical works in Psychology and Marketing to evaluate the distinctive aspects of desire. We concluded that desire is a psychological state, is affective after a cognitive process, is conscious, varies over time and is relatively intense.

In section three, we presented our definition: “desire as a conscious and controllable cognitive (psychological) state (Kavanagh, Andrade and May, 2005; Papies and Barsalou, 2015), that motivates an individual to react to a stimulus (object, individual or experience) that is expected to be affectively rewarding”. Finally, in section four, we presented the differences between the concept of desire and other concepts such as attitude, preference and temptations.

PART-I:

**THEORETICAL BACKGROUND AND
MODEL BUILDING**

Chapter I

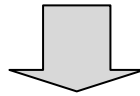
**Ontological Analysis of Desire, Definition and Conceptual
Discrimination**

Section 1: Etymology and Philosophical Aspect of Desire

Section 2: Scientific Aspect of Desire

Section 3: Definition of Desire

Section 4: Conceptual Discrimination of Desire



Chapter II

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CHAPTER II: DESIRE IN A CONSUMER BEHAVIOR CONTEXT

Introduction of Chapter II

The objective of this chapter is to highlight the importance of desire in a consumer behavior context through its relation with advertising, hedonic products and post consumption.

The first part of this chapter starts with an analysis of the relation between advertising and desire. Advertising influences the mental imagery of people and makes them feel desire for products. Advertising has a powerful influence in adapting and changing habits or life styles of people (Snyder and Debono, 1985).

The second part of this chapter reviews the concept of hedonic products and desire. Hedonic products are multisensory and upon consumption provide fun, emotions and excitement (Khan, Dhar and Wertenbroch, 2005). Our interest in analyzing hedonic products concerns the idea that desire occurs at a consumer's affective level. Desire is related to hedonic products because they are expected to be affectively relevant.

Finally, the third part of this chapter focuses on the relationship between post consumption and desire. We are interested in showing other ways (different to advertising and to the direct exposition to hedonic products) where stimuli can activate desire for consumption. We focus on the possession of souvenirs associated to past consumption experiences and on the self-rumination of individuals.

Section 1: Advertising and Desire

The main objective of advertising is to enhance brand knowledge and to persuade consumers to desire branded products. Advertising amplifies the awareness of the brand name and its product's characteristics, thus making the product desirable (Hoyer and MacInnis, 2008). Since advertising has a powerful influence in adapting and changing habits or life styles (Snyder and Debono, 1985), analyzing the relationship between advertising and desire is inevitable. Advertising influences the mental imagery of people and make them feel a need for products (Burns, Biswas, and Babin, 1993; Fennis, Das, and Fransen, 2012). Advertising proposes a “utopian” world to individuals by showing them products as a mean to achieve dreams, and, thus, motivating them to acquire such products (Richins, 1991). In the following sections, we present some factors that impact desire.

1.1. Attractive Sources

One of the best ways to motivate individuals to desire products is through the presentation of magical advertising (attractiveness of people, decoration, beautiful objects) (Williams, 1993; Schroeder and Zwick, 2002). Individuals associate aesthetic qualities of advertising to the attributes of the products. In the same way that physical attractiveness of an individual influences the perceptions of the other people towards him or her, the attractiveness of the components of the advertising improves the perception of the product (Bower and Landreth, 2001), especially by the simulation of the consumption experience. Magical advertising improves the mental imagery of individuals, and consequently the desire for the product (Burns, Biswas and Babin, 1993). The aesthetic aspect of advertising influences the favorability of consumers regardless of the content of the message, even when the consumer is not motivated to process information (Trampe et al., 2010). For instance, consumers rate products that were communicated with attractive celebrities as more appealing, impressive

and interesting than products with unattractive celebrities (Kahle and Homer, 1985). Such ratings may also affect the purchase intention of the consumers for the products.

Other characteristics of advertising components can have a beneficial effect on the purchase of products. Gender and cultural congruence of individuals can influence the desire for products. For instance, the use of female bodies in advertisements is a “cheap trick” to quickly grab the attention of men and to provoke their desire (Jacobsen and Mazur, 1995).

1.2. Pleasant Pictures

In order to influence the desire of the consumers, pleasant pictures are frequently used in advertisements. Pictures can serve both as visual stimuli and as symbol artifacts (Scott, 1994); they can affect visual imageries of the consumers in making products desirable. Pleasant pictures can affect the perception of the consumers especially when they are processed peripherally, beyond the effect they have on the beliefs of the consumers about the product (Miniard, Sirdeshmukh, and Innis, 1992). For example, a picture of a sunset can influence the desire for a soft drink. Advertisers use high-powered special effects similar to those seen in movies for their television and online advertisements.

1.3. Musical Stimuli

Companies frequently use musical stimuli as a communication tool in order to influence consumers. It is known that musical stimuli in advertising affects the way consumers perceive products by different means and on different levels (Gorn, 1982). One aspect is entertainment: it helps make an advertisement more appealing by adding aesthetic value to it. An advertisement that has high aesthetic value will be able to capture more attention of consumers and help them in having a better representation of the products in their mind, and consequently induces them to desire products (Huron, 1989). Another aspect is the lyrical language; mixtures of speech and song provide advertisers with opportunities for both

logical, factual appeals (through spoken and written language) and emotive, poetic appeals (through music) (Huron, 1989). The use of music is progressing beyond the traditional use of the jingle. Sometimes even the music advertisements become popular and drive album sales. For example, in 2008 the song New Soul of Israeli-French singer Yael Naim was used by Apple for the advertisements of its Mac Book Air laptop. This song cracked the Billboard top 10 in USA. Background music in advertisements can stimulate emotional memories of rewarding experiences or situations and incite individuals desire to repeat these experiences (Zhu and Meyer-Levy, 2007). For instance, if a song in an advertisement reminds individuals of their university days or of a childhood memory, the emotions associated with these memories may transfer to an advertisement, brand, store, or other attitude object, and consequently trigger desire for products.

1.4. Emotional Context

In order to help the processing effort of consumers, an emotional context can be used in advertisements. One special type of emotional message is called transformational advertising. The goal of a transformational advertising is to associate the experience of using the product with a unique set of psychological characteristics (Aaker and Stayman, 1992). These advertisements try to increase emotional involvement by making the use of the product or service a warmer, more exciting, more pleasing, and richer experience in order to evoke desire for products. This approach is contrary to the one taken by informational advertisements which seek only to present factual information (Aaker and Stayman, 1992; Braun-LaTour et al., 2004). For example, Coca cola uses transformational advertising to convey that “Coke is a part of the pleasure of everyday life, the pleasure of aliveness, relaxation, and being connected,” says the company’s chief marketing officer. The upbeat Coke Side of Life advertisements feature the trademark Coke bottle to reinforce the idea that “Coke is about happiness in and around the bottle.”

1.5. *Message Content*

The program context in which an advertisement appears can affect consumers' evaluation of the message (Murry and Dacin, 1996). First, advertisements embedded in a happy TV program may evoke desire for products more likely than those in sad programs, especially if the advertisements are emotional (Murry, Lastovicka, and Singh, 1992). Similarly, how well we like the program can affect our feelings about the advertisements. One explanation of this reaction is that the programs influence our information processing in a manner consistent with our mood. Another explanation is that, according to the excitation transfer hypothesis, we may mistakenly attribute our feelings about the TV program to the advertisements (Murry and Dacin, 1996). One note of caution: A TV program can become too arousing and can therefore distract viewers from the advertisements. In an interesting study that compared consumers' reactions to advertisements broadcasted during the Super Bowl, responses in the winning city were inhibited in contrast to those in the losing and neutral cities. Another study shows that placing advertisements in violent programs can inhibit processing and advertisement recall.

Section 2: Desire for Hedonic Products

2.1. *Hedonic Products*

Hedonism, from a philosophical point of view, proposes that the goal of human existence is the constant search for pleasure and the avoidance of pain. Most decisions are made to maximize net pleasure (pleasure minus pain) in order to find the welfare of self (Feldman, 2006). In essence, individuals desire pleasurable stimuli or experience that can be provided by different resources. In this sense, consumption plays an important role as a pleasure provider. Individuals may purchase products for hedonic reasons.

Hedonic products are multisensory and upon consumption provide fun, emotions and excitement (Khan, Dhar, and Wertenbroch, 2005). For example, flowers, music, sports cars, luxury watches and chocolate are types of hedonic products. Nevertheless, the categorization of a product as hedonic depends on the goal or motivation of the consumers (Alba and Williams, 2012). A product originally conceived as hedonic may hold utility features, for instance, a hedonic product such as chocolate can also be consumed for its cardiovascular benefit. A product, such as a Ferrari car can provide several benefits to the consumer, the utility of being able to move with ease, the fun of driving a nice and comfortable car, the desire to be placed in a social status superior to others, and may be the ability to make friends easily. Given that a product may have several dimensions, we focus on products with mainly hedonic aspects. Our interest in analyzing hedonic products concerns the idea that desire occurs at the consumer's affective level. Desire is related to hedonic products because they are expected to be affectively relevant.

According to Hirschman and Holbrook (1982), the hedonic perspective can be applied to various fields relating to consumer behavior understanding. Regarding the mental construction, desire for pleasurable experiences dominates the utilitarian motivations in

choosing a product. Thus, the hedonic consumption is linked to an imaginative construction of reality and the search for sensory-emotional stimulation is independent from the cognitive research of product information. Hedonic products are more emotionally involving than the consumption of such products generates and requires a mental activity from the consumer. Thus, decisions that correspond to hedonic products are mainly based on symbolic elements rather than tangible product features. Regarding the use of the product, the ability and the desire to spend imaginative-emotional resources vary over time.

The analysis of hedonic products leads us to interrogate ourselves about what gives pleasure and consequently what makes products desirable. Some products are more pleasant than others and there are special products characteristics that make them more desirable. We are interested in understanding these different factors of a hedonic approach. First, the perspective based on design: hedonic products can provide pleasure through their aesthetic values that meet the physical properties of this product, but also through their performance and their meanings (Norman, 2004). In a perspective based on product usage, the consumption experience of hedonic products is more desirable than utilitarian products because of the emotions supplied by the experiences (Alba and Williams, 2012). Finally the most important reason and more relevant to our research is that hedonic products are desirable through their sensory perception. Hedonic products stimulate the simulation of pleasurable or rewarding experiences.

2.2. The Multi-Sensory Aspect of Hedonic Products

According to Hirschman and Holbrook (1982), the term "multi-sensory" means the receipt of experiences through multiple sensory modalities, including tastes, sounds (music in stores), smells, tactile impressions and visual images (aesthetic, colors). Consumers do not only respond to multi-sensory impressions of external stimuli (perfume) by coding these sensory inputs, but they also respond by generating multisensory images themselves. Also, the

exposition to a certain sensory modality can activate multi-sensory mental imageries associated with past experiences. For example, the smell of a perfume may cause the consumer not only to perceive and encode this perfume, but also to generate an internal imagery containing activities, sounds and tactile sensations. In the case of food products, individuals need a combination of their five senses in order to be able to distinguish the five pure flavors (sweet, salty, sour, bitter, and umami) considered as basically different biochemical and cellular interactions (Krishna, 2012). For example, the perception of the saltiness of chips is built through their smell, their form at the time of touch, the noise they make while chewing them and also by their visual appearance. In this sense, hedonic products are desirable because they evoke multisensory images that make consumers generate appetitive behaviors in their minds.

In short, individuals are constantly in search of pleasure due to a need of affect and they need to find a way to satisfy their desires. For this, the hedonic products are designed to provide fun, emotions and fantasy to individuals (Holbrook and Hirschman, 1982), but it also depends on the motivation and purpose of the consumer to perceive a product with mainly hedonic characteristics (Alba and Williams, 2012; Pham, 1998). In a more holistic perspective, the hedonic aspect focuses not just on the product features but also on its use and the mental construction by the individual. What gives pleasure and makes a product more desirable than another depends on: the design that matches the aesthetics and the visual aspect of the product; the degree of emotions supplied by the experience of consumption; and the sensory properties of the product. Regarding the latter, we will focus on the taste scale of products by giving examples from the consumption of drinks.

2.3. *The Desire of Hedonic Products*

The desire for hedonic products will be mainly guided by the pleasure that the consumer thinks he or she will have by consuming such products. Expected pleasurable

experiences are activated during the exposure to the products. This expectation of pleasure depends on the satisfactions of past experiences of the consumer. For example, if the consumer is exposed to products such as an ice cream, he/she will tend to desire it because of the pleasure they think it provides. That sense of fun is enhanced by past consumptions. The expectations of pleasure influence the emotional responses of the individual to a stimulus (Alba and Williams, 2012).

2.4. *Purchase of Hedonic Products*

Positive emotions felt from past experiences with hedonic products strengthen the desire for products by guiding the trend of consumers towards a purchase intention. In other words, purchase is mainly guided by the degree of pleasure that the consumer thinks it provides. For instance, individuals buy ice cream because they are expecting a certain flavor that they think they will get after consuming such an ice cream.

Even if desire can have a causality effect on the purchase of products, it does not determine the purchase of products when it is in conflict with personal goals or social norms. Consumers buy a hedonic product when it is expected to provide fun, fantasy and emotions and when self-control does not or cannot “defeat” the desire. For instance, desiring a pizza can conflict with the goal of losing weight, and consequently the pizza will not be purchased. The expected pleasure of the consumer at the beginning will not be the same throughout the desire experience. Even if the consumer feel a strong desire for products when he or she is exposed to them, self-control can make individuals regulate the expectations of the pleasure.

Section 3: Post Consumption and Desire

In this section, we are interested in showing other ways where stimuli can activate desire for consumption (different to advertising and to the direct exposition to hedonic products). We focus on the possession of souvenirs associated to past consumption experiences and on the rumination of the self of individuals.

3.1. *Souvenirs*

The importance of souvenirs in the analysis of desire is their capacity to remind individuals of their past experiences with products, and consequently to incite them to re-consume them. Extraordinary experiences with products are associated with souvenirs that serve as tangible symbols to represent or commemorate such experiences (Love and Sheldon, 1998). Souvenirs refer to objects that the consumers acquire, create or access after they have consumed the products. For example, a consumer can see photos of a party on the web site uploaded by night clubs. Consumers assign meaning to souvenirs, and incorporate experiences that are an inextricable part of such souvenirs.

One important condition in the possession of souvenirs could be that consumers might not use them frequently. Consumers could adapt to souvenirs, so that they do not elicit rewarding future experience with products anymore. For example, using the pen offered by a brand could improve the brand knowledge but it does not elicit the desire for the product.

3.2. *Positive Rumination*

Given that there is no research about positive rumination, we forecast such a concept based on Martin and Tesser's (1996) theory of rumination that have a negative character. Positive rumination would be a cognitive processing of emotions that manifests it-self in repetitive and intrusive thoughts patterns about past rewarding experiences. Rumination

differs from other thinking processes because it occurs in the absence of immediate environmental cueing (Koole et al., 1999). An individual's rumination is always goal directed. Individual continually compare their desired goal to their current states to regulate their behavior. When a lack of progress towards the goal is perceived, ruminative thoughts are likely to appear (Martin and Tesser, 1996; Scott and McIntosh, 1999). In our context, an individual's desire that is perceived as not sufficiently satisfied will activate, during eventual activities, ruminative thoughts and consequently desires for reconsuming such products. For example, ruminating about uncompleted video games (e.g. clash of clans) will activate the desire to play them again because of the expectation of rewarding experiences and the accomplishment of goals.

Summary of Chapter II

This chapter provided a review of desire in a consumer behavior context.

Section one provided some aspect of the relationship which may exist between advertising and desire. Desire for products is influenced by the presentation of attractive sources (attractiveness of people, decoration, beautiful objects) (Williams, 1980; Schroeder and Zwick, 2002), through pictures that serve both as visual stimuli and symbol artifacts (Scott, 1994), through musical stimuli that help consumers to have a better representation of products in mind (Huron, 1989), and through an emotional context, by making the use of products more exciting, more pleasing and richer experience.

In section two, we realized a short literature on hedonic products and their relationship with desire. Since hedonic products are expected to be affectively relevant, they are directly related to desire. It occurs at a consumer's affective level. If hedonic products provide consumers with pleasure, then this property makes products desirable. Hedonic products are multi-sensory through multiple sensory modalities, including tastes, sounds (music in stores), smells, tactile impressions and visual images (aesthetic, colors). The desire for hedonic products will be mainly guided by the pleasure that the consumer believes to have by consuming such products. Expected pleasurable experiences are activated during the exposure to products.

Finally, section three focuses on the relationship between post consumption and desire through the souvenir and positive rumination. The importance of souvenirs in the analysis of desire is its capacity to remember past experiences with products, and consequently to incite individuals to re-consume them. In the case of positive rumination, cognitive processing of emotions that manifests it-self in repetitive and intrusive thoughts patterns about past rewarding experiences provokes desire for products.

PART-I:

**THEORETICAL BACKGROUND AND
MODEL BUILDING**

Chapter I

**Ontological Analysis of Desire, Definition and Conceptual
Discrimination**

Section 1: Etymology and Philosophical Aspect of Desire

Section 2: Scientific Aspect of Desire

Section 3: Definition of Desire

Section 4: Conceptual Discrimination of Desire

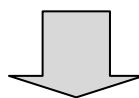
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Chapter III

Theoretical Framework and Hypotheses

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Section 5: Desire and Behavior.

Section 6: Hypotheses.

CHAPTER III:

THEORETICAL FRAMEWORK AND HYPOTHESES

Introduction of Chapter III

The objective of this chapter is to present the theories of desire in order to construct our conceptual research model.

The first part of this chapter provides details about the process of desire, we show Papies and Barsalou's (2015) grounded theory of desire and Kavanagh, Andrade, and May's (2005) elaborated intrusion theory of desire; both theories have a psychological approach to desire. We are interested in knowing the articulated ideas and concepts of desire in order to identify the relevant explicative factors that then allow us to formulate our hypotheses.

The second and third part of this chapter provides our theoretical contribution to the theories of desire. We applied the dual-process theory (Chaiken, 1980; Chaiken and Trope, 1998) to desire when it is influenced by the recall of past experiences with products. The interest in analyzing this relation lies in the fact that recalling past experiences can have a relevant influence on desire.

The fourth part of this chapter proposes the conditions that can play a role in the relationship between the difficulty of recall and desire. We analyze conditions such as the processing of semantic and episodic information and time pressure. The fifth part focuses shortly on the immediate consequence of desire such as behavior of consumption. Simulation of rewarding experiences has the potential of enacting behavior of individuals for appetitive stimuli. Finally, the sixth part presents our five principal hypotheses on the relationship between difficulty of recall, desire, purchase intention and conditions, such as episodic (versus semantic) information and time pressure.

Section 1: Theories of Desire

To explain the process of desire, we will show here Papies and Barsalou's (2015) Grounded Theory of Desire and Kavanagh, Andrade, and May's (2005) Elaborated Intrusion Theory of Desire both theories have a psychological approach to desire. We are interested in knowing the articulated ideas and concepts about desire in order to identify the relevant explicative factors that allow us to formulate our hypotheses.

2.1. *Grounded Theory of Desire (Papies and Barsalou, 2015)*

Consumption desire is stimulated by the simulation of rewarding experiences (Papies and Barsalou, 2015). People who recall their positive past consumptions will feel that products are a source of rewarding experiences and this will generate motivation for consuming this product. Past positive experiences enable the imagery of people in the creation of rewarding experience. Imagery such as sensations, pleasures, feelings, colors, etc will allow people to simulate experiences and deduce that products will generate fulfilling consumptions. This expected satisfaction will motivate people to consume by creating a desire for products. To sum up, the process of desire for consumption (Figure 1) is created by: stored *conceptualizations* related to past experiences, *pattern completions* between current and past experiences, and *simulations* of rewarding experiences. We will further explain each stage in the following part.

2.1.1. Conceptualizations

Rewarding experiences are stored in memory and are represented by situated conceptualizations. These representations influence future experiences by motivating actions. An experience includes several dimensions: cognitive, affective and behavioral states, as well as the environmental context. In this sense, a situated conceptualization results from the broad processing of the brain (Barsalou, 2003). In a given experience, multiple neural systems

process the elements of such an experience at the same time because individuals broadly conceptualize and perceive experiential stimuli. Distinct neural systems process our motor behavior (ganglia), our cognitive and affective state (e.g. amygdala) and visible objects in the environment (the ventral stream) as well as external settings (e.g. cortex). Each system processes information of the current experience in a perceptual and conceptual way and conceptualizes each bit of information on a local level. A global representation of the experience is constructed by integrating all the pieces of processed information on a higher level. Relations between pieces of information are established on a global level and may give the significance of objects. These global representations create a coherent meaning of the experience.

The combination of local and global representations of an experience's elements is considered as a conceptualization; this combination allows for the interpretation of a current experience by producing pertinent cognitive, affective and behavioral processes. Due to the fact that a conceptualization involves all cognitive activities, the conceptualization of a rewarding experience, within the domain of desire, will be the pattern of information processed during past rewarding events. This information is represented and grounded in the brain on a local and global level. In this sense, conceptualizations of rewarding experiences play a key role in desire.

For example, consider an individual who is in a restaurant with friends. All neural systems of the individual help him to perceive the experience and to interpret it conceptually. Streams of information about the environment in the restaurant (decoration, temperature or intensity of lights) will be perceived and conceptualized by some neural systems. Another neural system may be monitoring behavior when the individual is eating food or speaking with his friends. In parallel, neural systems are processing emotions from the interaction with friends or because the food is very tasty. Other neural systems might be used for processing logic

thinking and reasoning in case of problem solving (an unknown ingredient in the soup, a forgotten wallet). All these elements are grounded in neural systems and become stored together as an integrated pattern in memory. This pattern can later be reactivated by relevant cues of the environment, for example when the individual sees this restaurant again and remembers good memories shared with friends. Individuals would recall the good decoration, good food and specially the jokes during dinner with friends.

2.1.2. Pattern Completion Inferences

After a conceptualization is stored as a memory pattern, it can later be recalled by any of the elements of the current experience related to this conceptualization. For example, seeing the same dish in another restaurant could infer the other elements of this stored experience as friends, food taste, jokes, etc. In this sense, a key role of conceptualizations is to facilitate current actions by recalling relevant information of past experiences. A current experience is completed by information inferred from stored conceptualizations in memory. This inferential process may be triggered to find the conceptualization that best fits the current experience (Barsalou, 2011). Situated conceptualizations depend on the frequency and quality of past experiences but also of how they have been coded and stored in memory.

Elements of a current experience that are not directly activated may be inferred from the conceptualization of past experiences through pattern completion inferences (Barsalou, 2011). On the other hand, elements of the conceptualization can become active without being directly triggered by the current experience. For example, seeing a dessert offered in a restaurant may not only make one relive the taste of this dessert but also the positive emotions during past experiences. In this sense, desire may be the result of this pattern completion; it means that information of stimuli of the current experience is completed with emotionally relevant conceptualizations of past experiences, thus inducing motivation of an individual for a stimulus that was previously rewarding.

An important supposition in this theory is that the set of elements of a conceptualization can be retrieved based on any element of the current experience. In this sense, desires could be triggered when elements of a conceptualization of emotionally rewarding past experiences are activated by any element of the current experience (Papies and Barsalou, 2015). This activation is realized through pattern completion inferences. For example, the sight, smell or sound of a desirable object can activate all elements of a conceptualization. Likewise, several already activated elements of a conceptualization can progressively activate the other elements of the conceptualization depending on the effort and concentration of individuals. Once it is running, the pattern completion inferences activate elements of the conceptualization and produce motivation to behavior in the current experience. It can be independent of physiological needs.

2.1.3. Simulations

After the pattern completion inference activates the elements of a conceptualization, these activated elements are produced as simulations rather than as a description of each element. This theory stipulates that elements of conceptualizations are grounded in the neural systems producing perception and action (Barsalou, 1999). For example, champagne can activate a conceptualization of having drunk it previously; the taste, the smell and the reward inferred through the pattern completion can be reactivated in the sensorial neural systems. On the other hand, the brain and body work as if individuals were drinking the champagne. Sometimes, these pattern completion inferences can produce highly realistic simulations and consequently provoke motivational behaviors.

Simulations are the result of the processes of capture and reenactment. During a current experience, the states of the neural systems are captured and a network becomes established after the same experience occurs repeatedly (Barsalou, 2012). For example, after drinking champagne several times, a network is established connecting elements of a conceptualization

across all areas of the brain that process repeated experiences. Once the network becomes established, it can be used to reenact experiences. Reactivating the network of conceptualizations' elements partially activates certain states of the brain. These reproduced brain states are referred to as simulations.

It is important to notice that simulations do not reproduce the same past experiences; the construction is partial and it can be distorted by indirect stimuli. In accordance with the theory, simulations often operate unconsciously and implicitly, without a necessary intention in the behavior. But when simulations are conscious, then they reproduce mental imagery that easily produces more desire. Simulations assume several cognitive forms including perception, working memory, bibliographic memory, language, feeling, thought and social cognition (Barsalou, 2008). For instance, in the absence of objects, individuals can simulate visual imagery, auditory properties or functions of objects during conceptual processing through visual, auditory and motor neural areas.

Past research demonstrates that simulations can be represented on an abstract level, both literally (e.g., Wilson-Mendenhall, Simmons, Martin, and Barsalou, 2013) and metaphorically (e.g., Lacey, Stilla, and Sathian, 2012). In the same way, simulations are realized based on pattern completion inferences when individuals are confronted with emotionally relevant stimuli (e.g. Barret, 2013; Lench, Flores, and Bench, 2011). For example, when people meet tasting food, they simulate the experience of eating this food (Simmons, Martin, and Barsalou, 2005). Similarly, people simulate the experience of eating a dessert and think about the manner of how it evokes a rewarding consumption, when they encounter it.

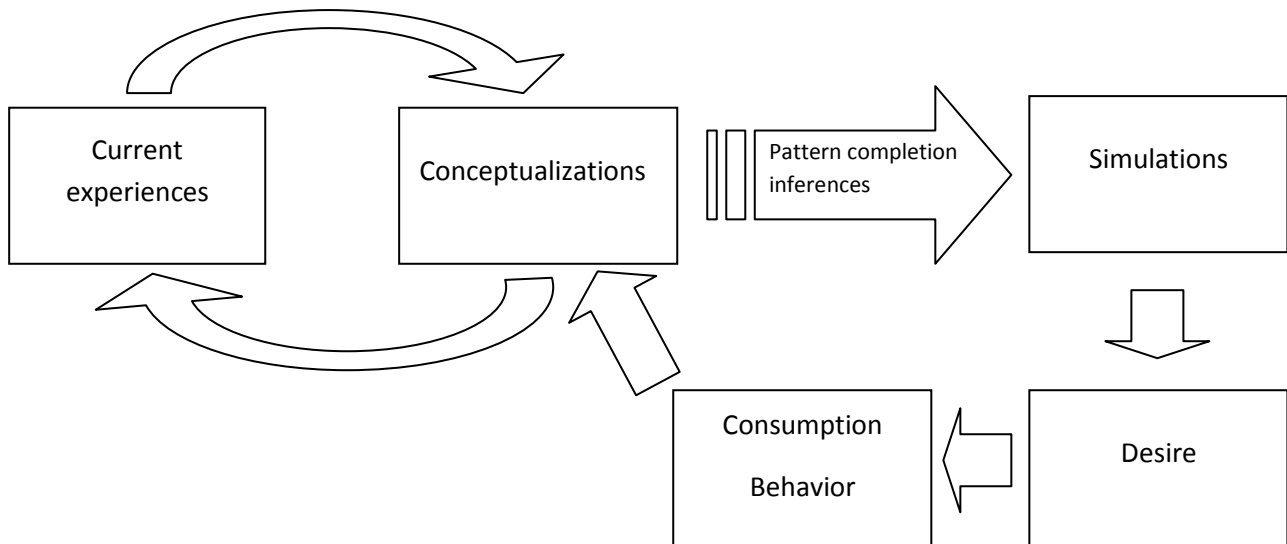


Figure 1 : Grounded Theory of Desire's Process

2.2. *Elaborated Intrusion Theory of Desire (Kavanagh, Andrade and May, 2005)*

This theory derives its name from the elaborated cognition of high stimulus-related information and the intrusive thought of learned experiences. The elaborated process is related to a conscious, controlled search for stimulus-related information and the high-utilization of working and long memory. The elaboration intrusive refers to the cognitive elaboration of information having intrusive thoughts as an input. The latter involves learned associations to recall past experiences and they can be distinguished between: physiological deficit states, negative affect, external cues, cognitive activity and anticipatory responses to the stimulus. These associations can be conditioned by external elements or by recalling past experiences, and they are the initiating process of the elaborated intrusive theory of desire. These intrusive thoughts are transitory events and vulnerable to elements unrelated to the target stimulus.

When the target stimulus evokes, for instance, affections or a sense of deficit, the theory stipulates that a cognitive elaboration will follow this type of intrusive thought. Elaboration means thinking about how a stimulus is related to other elements or knowledge. In this sense, the elaborative aspect of desire includes cognitive processes that arise from affective-associated intrusive thought. In this cognitive process, individuals use the working memory in

order to find, retain and manipulate pertinent information related to the stimulus. The search can be external (e.g. environmental stimulus) or internal (e.g. biographic memories). For example, if individuals see an advertisement about chocolate, this intrusive thought can make consumers wonder about the pleasure supplied by chocolate through mental imageries or by recalling the last time that they consumed this product. This cognitive process including resources captured refers to the elaborative aspect of the theory.

Mental imageries produced by wondering are sources of desire. Individuals predict episodes of rewarding experiences because they construct vivid and rich moments. It emotionally impacts individuals and motivates them to realize actions. The generation and manipulation of vivid images involves a high level cognitive process (Baddeley and Andrade, 2000) and the elements of an image, as sensorial information and particular episodes are retrieved by the long-term memory. Information can also be obtained from an environmental stimulus and processed by the working memory. Moreover, the elaboration of images can be progressive and can activate retrieval processes that would generate intrusive thoughts making desires persisting. The theory stipulates that imagery is useful for producing desire because it activates emotions and motivations. Mental simulations of consumptions provide a similar experience of consumptions. In the following section, the principal components of the theory will be presented (Figure 2).

1.2.1. Factors that Elicit Desire

1.2.1.1. Physiological Deficit and Negative Moods:

Deprivation can induce desire because individuals try to cope with negative moods provoked by associations between desirable stimuli and the feeling of physiological or psychological withdrawal. For example, abstinence from desirable cigarettes induces the desire to smoke

(Jorenby et al., 1996). Desire also can be elicited by environmental cues that are associated to a missing stimulus.

1.2.1.2. Conditioned Cues

Cues are associated with past experiences or the presence of a desirable object. When a set of cues is more associated with rewarding experiences, it can elicit desire (Payne, Bettman, and Johnson, 1992). Previous experiences with the object allow understanding responses to cues in terms of classical conditioning. Desire can be prompted by conditioned cues. Individuals orientate their attention towards the cue that triggers desire.

1.2.1.3. Anticipatory Responses

These responses are physiological and depend on environmental cues (e.g. salivation to food or drink). Physiological responses can be a consequence of desire, but these responses can also elicit the desire because the awareness of experiencing a desire can prompt still more desire. The approach to explain these responses is recursive.

1.2.1.4. Desire-Related Thoughts

Cues can be auto-generated by cognitive processes, such as the knowledge that an oncoming consumption will be happening. Cognitive associations can also be influenced by priming experiences with desirable objects and created images of consumptions. The degree of subjective vividness of imagery is an important factor in the cognitive process, a generator of desire. Vivid cognitive images of reward elicit motivation to consume.

1.2.2. Elaboration of Desire

1.2.2.1. Imagery is a Key Type of Desire Cognition

Despite the fact that desire can be elicited by verbal thought, imagery is fundamental to more intense desire experiences. Vividness of an imagined scene is positively correlated with the

strength of desire (Harvey, Kemps, and Tiggemann, 2005). For example, smokers stated imageries as an important factor of the desire for cigarettes (Salkovskis and Reynolds, 1994). In the same way, unlinked imagery in individuals about desirable objects can decrease desire (May et al., 2004). Food-associated images elicit more desire than nonfood images (Kemps, Tiggemann, Woods, and Soekov, 2004). Moreover, images or fantasies about desirable objects are not limited to visual cues but they can also be triggered by hearing, smelling, tasting or touching.

Mental imagery uses many of the cognitive processes as perceptions. Imagined or perceived objects trigger similar emotional responses. In this sense, imagery and emotion are closely related. Physiological responses are induced by imagined emotional episodes (Bywaters, Andrade, and Turpin, 2004). For example, experiencing anxiety is lead by imagining negative situations. For this reason, a similar relationship between imagery and emotional experience are described in a desire experience. Vivid mental images are also emotional; consequently, some interference with these images could decrease the emotional responses and vividness of images (Andrade, Kavanagh, and Baddeley, 1997)

1.2.2.2. Desires Involve both Pleasure and Discomfort

Cognitive processes associated with rewards have an important role in a desire experience. However, in a situation when a strong perception of deprivation occurs, an experience of discomfort can be lived. Positive sensations of pleasure also make individuals pay attention to other dimensions of the experience; consequently, sensations from a physiological deprivation could be activated. In a process approach, positive sensations in the beginning of the desire experience reinforce the elaboration of desire, but if a deprivation appears and is continuous, the deprivation can provoke a negative experience (Zinser, Baker, Sherman, and Cannon, 1992). In other words, the desire experience is expected to be pleasurable only when the sensation of deprivation is not significant and it does not dominate the desire experience. This

means that a pleasurable desire experience can become an aversive experience through the severity of deprivation or individual-dependence of pleasurable objects. Nevertheless, even if individuals feel dissatisfaction with the desire experience through the deprivation, the imminence of a future rewarding experience makes the desire stay in the thoughts of individuals. Any incentive associated with objects is sufficient for individuals to pay attention to them and consequently trigger the elaboration of desire.

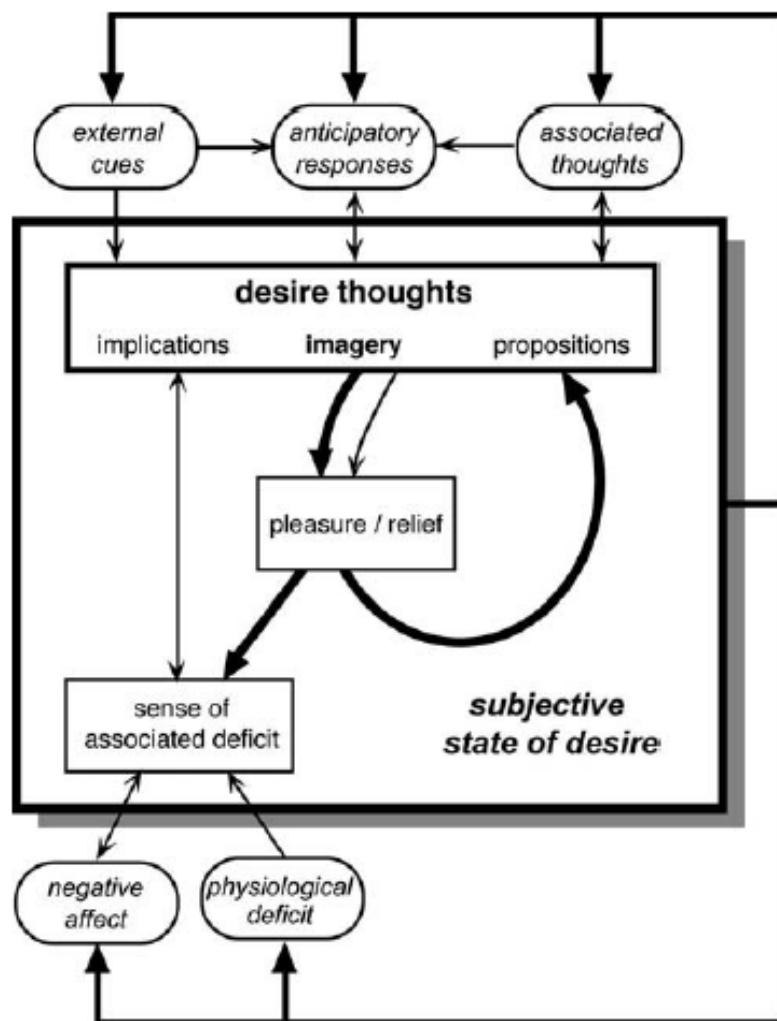


Figure 2 : The Elaborated Intrusion Theory of Desire (Kavanagh, Andrade, and May, 2005)

1.3. Differences between these Theories

Kavanagh, Andrade, and May (2005)'s Elaborated Intrusion Theory is different from Papies and Barsalou (2015)'s Grounded Theory in some terms. When considering general differences, the former has a broader description of desire experience which includes associative and cognitive processes; the latter instead has a learning approach and it does not only focus on the mechanism underlying desire, but also on the mechanism that generates motivated behavior. When considering more specific differences, there are important distinctions between the simulation and the imagery process in the theories. First, simulations focus on multimodal neural systems (e.g. bodily states, motor behavior) and not only on sensory imagery as in the case of the imagery process. Second, conscious imagery and unconscious actions of perception are taken in simulations whereas imagery process only comprises the conscious imagery. Third, conscious elaboration of desire through associative intrusions is assumed in the elaborated intrusion theory; whereas in the grounded theory, the desire can result from automatic simulations not necessarily involved in working memory.

1.4. Integration of Theories and Proposition

In a nutshell, the activation of desire depends on simulations from the associations of intrusive thoughts and rewarding experiences through pattern completion inferences. Intrusive thoughts are generated by physiological or psychological deprivations, environmental cues, the awareness of anticipatory responses, and the rumination of desirable experiences. This connection between intrusive thought and rewarding experiences is eased by situated conceptualizations stored in the memory of individuals. Such situated conceptualizations are representations of past rewarding experiences that are stored in memory in connection with multimodal neural systems in the brain. When individuals are influenced by intrusive thoughts, they produce simulations of pleasurable experiences using mental imagery including

vividness. The desire is activated when the feeling of deficit and the expectation of rewarding experience are present.

We think that the integration of such theories help us identify two main contributions: first, the feeling of deficit as a key input for feeling desire; and second the simulation as a broad process where several neural systems are activated at the same time. The feeling of deficit refers to the lack of pleasurable experiences by individuals. Simulation involves the integral connection of neural systems in order to represent rewarding experiences based on past positive experiences. We can retain here that the desire for consumption is not only dependent on the expected rewarding experience but also on the feeling of deficit of consumers, as showed in the Figure 3. As the deficit of consumers is a feeling, it can be inferred by past consumptions. For this reason, the recall of past consumptions becomes important in order to study and answer our research question.

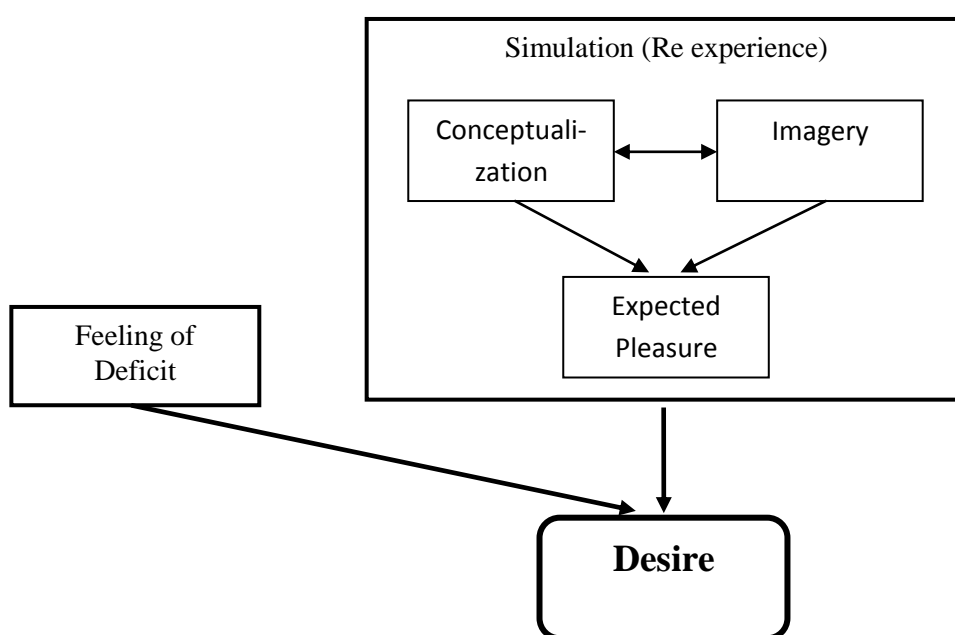


Figure 3 : Integration of Theories

Section 2: Recall of Past Experiences and Desire

These two theories principally explain the consumption desire when consumers are exposed to a stimulus and when they simulate rewarding experiences. We will now focus on the case where desire is influenced by the recall of past experiences with products. The interest in analyzing this relation lies in the fact that recalling past experiences can have a relevant influence on desire. For instance, individuals who relive rewarding past experiences have a tendency to easily identify the extent of pleasure that products could supply. For this reason, recalling past experiences has great importance as a source of desire.

Applying these two theories to the case of the recall of past experiences, we can observe that past experiences could help consumers to simulate rewarding experiences through the connection between pattern completion inferences and conceptualizations stored in memory. The direct simulation of pleasurable experiences through the recall of past experiences eases the vividness of mental imageries. In this sense, desire is strongly stimulated by the recall of past experiences.

However, the systematic processing of information of past experiences is not the only factor that can impact the consumption desire. Given that desire is a psychological state; it can be the result of two different processes that diverge basically in the manner in which consumers involve in the information recalling of past experiences. This dichotomy in terms of processing most essentially mirrors the duality of mental processes, as postulated by a group of theories that guided a large frame of research in cognitive and social Psychology during the last three decades: the Dual-Process Theories (Chaiken and Trope, 1999). The core defining nature of these theories is that they divide the realm of mental processes into two general categories or types of processing, to which they assign opposing properties (Gawronski and Creighton, 2013).

In this respect, almost all theories agree on a distinction between cognitive processes that are unconscious, rapid, automatic, heuristic and those that are conscious, slow, deliberative, and elaborated (Evans, 2008). This distinction is based on the assumption that processing can operate either automatically or in a controlled way (Gawronski and Creighton, 2013). Processes are considered automatic if they are (a) unintentional, (b) efficient or effortless, (c) uncontrollable, and/or (d) unconscious (Bargh, 1994). Because a process rarely meets all four of these criteria (Bargh et al., 1992), authors have suggested diverse headings for the two types of thinking that they contrast depending on which features of automaticity they aim to emphasize (e.g., reflective vs. impulsive by Strack and Deutsch, 2004; systematic vs. heuristic by Chaiken, 1980; experiential vs. rational by Epstein, 1994; central vs. peripheral by Petty and Cacioppo, 1986; no information content vs. information content by Schwarz, 2004). The presented dual-process perspective has been amply used to integrate and explain diverse phenomena such as persuasion (e.g., Chaiken, 1980; Petty & Cacioppo, 1986), social behavior (Strack and Deutsch, 2004), attitude-behavior relations (e.g. Fazio, 1990; Wilson, Lindsey, and Schooler, 2000), prejudice and stereotyping (e.g., Devine, 1989), and aesthetic liking (Graf and Landwehr, 2015).

We have analyzed the theories of desire that correspond to the elaborated, conscious and systematic aspects of information processing and we have applied it to the recall of past experiences. To complement the dual-process theory (Chaiken, 1980, 1987; Chaiken and Trope, 1998), we will focus, in the next section, on the influence of recalling past experiences on consumption desire through a heuristic approach. The heuristic aspect refers to the unconscious, rapid and inferential recalling of past experiences with products influencing the evaluation of such desirable products. Figure 4 shows the dual-process theory applied to desire.

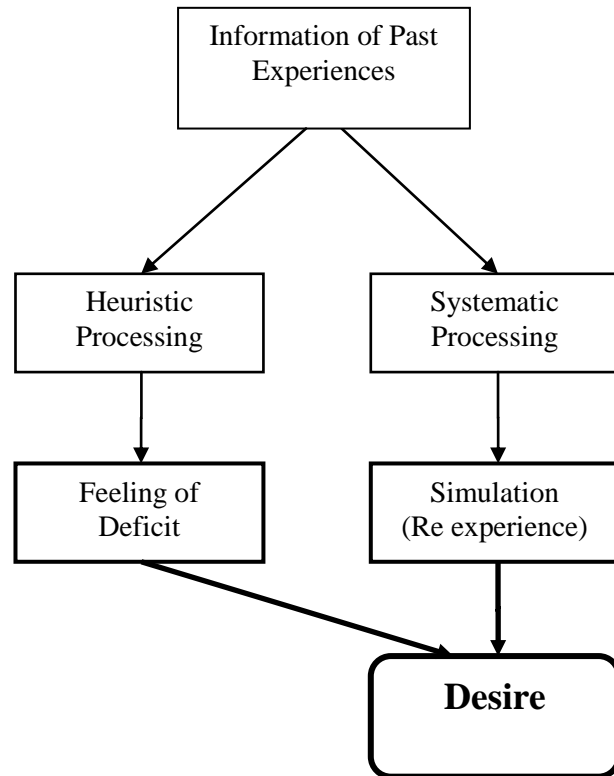


Figure 4 : Dual Process of Past experiences and Desire

Section 3: The Construction of Desire: Heuristic Processing

Unlike the systematic processing of desire, which focuses on the elaborated recalling of past experiences influencing consumption desire, in this part we are interested in the heuristic approach to desire. This means that, as previously stated, consumption desire is influenced by information that does not come from the systematic processing of past experiences but rather from the heuristic processing. In this sense, during the recall of past experiences, individuals can psychologically construct their desires, without basing them on the declarative information of past experiences. In the next part, we will further explain desire as a construction.

The concept of psychological construction becomes important in social sciences. Individuals construct their preferences (Lichtenstein and Slovic, 2006), their choices (Bettman, Luce and Payne, 1998) or their social judgments (Martin and Tesser, 1992) due to the complex processing of information (i.e. concepts, procedures, episodic experiences) and the influence of the context, the stimulus and the task (Whittlesea, 1997). In the same way, it is possible for individuals to construct their desires, without being dependent on the content of information of recalled experiences. For example, Wansink, Painter and North (2005) showed that individuals who ate a soup in a self-refilling soup bowls (the biased visual cue) ate much more than those who just ate the soup in normal bowls. Individuals were persuaded by contextual factors such as the bowl size and the perceptual effect of seeing that they do not eat much. Thus, Galak, Redden and Kruger (2009) show that desire also depends on the recalled consumer environment. In their study, consumers had a stronger desire for products when asked to remember the context in which they consumed this product. Consumers were asked to focus on other products that they also consumed. Based on these examples, we can notice that consumers can be also influenced by information that results from heuristic processing. In

the same way as these studies, we do not focus our research on declarative information of past experiences but rather on the information from the heuristic processing of past experiences. More precisely, we used the difficulty inference in the recall of past experiences. We are interested in this inference because it can influence the feeling of deficit of consumers, and consequently affect desire. In the next part, we explain this inference and its relationship with the feeling of deficit, and consequently the consumption desire.

3.1. *Difficulty Inference “it is difficult to recall, so I have not consumed a lot”*

People do not often analyze the content of information to make decisions. They can use inferences, especially when the information processing is complex or the information is unavailable. We are interested in the latter. The difficulty inference or availability heuristic (Tversky and Kahneman, 1973) is based on the fact that people tend to estimate the frequency of an event based on the availability of this information in their memory. For example, if the information related to a specific incident is not available in their memory, people will think that this incident does not happen very often within the population. On the other hand, the less accessible the information of incidents is, the more people will think that few people were affected. Tversky and Kahneman (1973) suggested that in some situations where individuals cannot remember the occurrences of an event, they use different methods to estimate the frequency or recency of that event. For example, individuals think that there are more English words that begin with the letter K in the first position than in the third one, when in fact it is the opposite (Tversky and Kahneman, 1973, experiment 3). This result is explained by the fact that the evaluation of the amount of words with the letter K in the first position is influenced by its degree availability in the memory. Therefore, words beginning with the letter K will be evaluated as more frequent. Despite the large impact of this research in social sciences, the results of this study are ambiguous. It is difficult to know if people thought this because they produced more words that started with the letter K or because it was really the

availability of words in their memory that caused these results. In the next part, we detail the contribution of Schwarz et al. (1991) on the difficulty inference or the ease of recall. Difficulty inference, accessibility inference, availability heuristic, or ease of retrieval inference are interchangeable terms.

Given this ambiguity in the use of the availability heuristic, Schwarz et al. (1991) manipulated the conditions of this inference in order to unravel this ambivalence. Schwarz et al. (1991) suggested a difference between the content of the information that people remember and the subjective experience that can accompany this retrieval. They became interested in the informational function of the subjective experience. By manipulating the conditions on the ease of retrieval, they showed (experiment 1) that the participants who recalled six examples of assertive behaviors classified themselves as more assertive than those who recalled twelve examples. Those who remembered six examples indicated more ease of retrieval than those who provided twelve examples. In the same way as Tversky and Kahneman (1973), Schwarz et al. (1991) explained this phenomenon by the fact that people relate the ease of retrieval to having experienced more than their actual behaviors or experiences. The use of this inference has been largely replicated in marketing. For instance, the ease of recall of positive properties of a product enhances the favorable evaluation of such a product (Menon and Raghurir, 2003). The ease of reading and choosing a product improves the possibility of purchasing such a product or diminishes the choice deferral (Novemsky et al., 2007). The ease of processing experiential attributes enhances the evaluation of the experiential product (Brakus, Schmitt, and Zhang, 2014). The metacognitive difficulty increases the attractiveness of products by making them appear exclusive or unique (Pocheptsova, Labroo and Dhar, 2010).

3.2. *Automaticity of Difficulty Inference*

In this part, we explain how difficulty inference is automatically used. The automaticity is a characteristic of the heuristic approach of information processing (Chaiken, 1980). Automatic information processing occurs unconsciously, without control by the individual, without necessary attention, without any cognitive effort and it is involuntarily (Bargh, 1989). Several empirical studies highlighted automatic processes in the field of consumer decision-making. For example, Kardes (1986) examined the unconscious use of product information by individuals when they were aware of the information presence, and Janiszewski (1990) examined the use of product information when people were unaware of the information presence. Similarly, research has shown the prevalence of one or more automaticity criteria in the effects of consumers impulsivity (Ramanathan and Menon, 2006; Shiv and Fedorikhin, 1999), the monetary value judgments (Raghubir and Srivastava, 2002), the distance perception (Raghubir and Krishna, 1996), and phonetic effects of brand names on consumer judgments (Yorkston and Menon, 2004).

Taking into account the conditions proposed by Bargh (1989) to accomplish the automatic information processing, Menon and Raghubir (2003) showed the ease of retrieval automaticity through several experiments. First, they demonstrated that the use of the ease of retrieval inference is uncontrollable. For example, individuals in one of their experiment evaluated a brand of computers less favorably because of the difficulty in restoring its positive properties, even when they were initially informed that the other participants had found this recall task difficult. This phenomenon is explained by two possible reasons: people are not aware of the ease of retrieval used as an information source to make judgments, or even if people are aware of it, they are unable to control its use. These two reasons are related to automatic processing (Bargh, 1989). Furthermore, Menon and Raghubir (2003) showed that the ease of retrieval inference is used without effort. When individuals were imposed to a

cognitive load before the experience of recall, the ease of retrieval had an impact on the evaluation of the same brand, even when they were informed that the other participants found the task of recall easy or difficult. In another experiment, when individuals were informed that the other participants found the task of recall easy or difficult, the ease of recall had an impact on the evaluation of the brand only when cognitive load was imposed on individuals. These two experiments performed by Menon and Raghurir (2003) showed that the ease of recall can be applied without considerable effort. In summary, the ease of recall or difficulty inference is automatically used: without any control or effort by the individual.

3.3. *Quantity Consumed and Desire*

Now, we know that individuals can automatically infer they have not consumed a lot a product if recalling past experiences is difficult. In this part, we explain that if consumers think they have not consumed a lot a product, then they feel deficit, and consequently they desire such an appetitive product.

One of the causes of why people feel desire for consumption is the feeling of deficit (Kavanagh, Andrade, and May, 2005). The need theories (Cabanac, 1971) stipulate that desire increases in a period of non need satisfaction because individuals miss products and this makes them crave consumption. When individuals imagine the experience of consumption and the feeling of not having this product, they miss and consequently desire that product. For example, consumers who become conscious that they have not consumed an appetitive product for long time, e.g. a glass of Coca-cola, feel more desire for consumption. Another example, in the case of products that are sold in a certain season or during special days such as Christmas or Mothers' day, these kinds of products are strongly desired by people. In the same way, if consumers are aware that they have not consumed a product a lot, they will have more of a tendency to desire this product.

3.4. *Discrepancy-Attribution Account*

We have hitherto seen the difficulty inference and its relationship with desire. Now we will focus on the difficulty inference and its important condition. Schwarz et al. (1991) used the “misattribution” of feelings to remove the impact of the ease of retrieval or difficulty inference on the evaluation of people’s assertiveness, attributing the ease of retrieval to the situational stimuli (i.e. music). They showed (experiment 3) that when people expect the recall task to be easy, the ease of recall has no effect on the evaluation of people assertiveness. Participants recalling six examples of assertive behaviors are assessed as less assertive than those who have recalled twelve examples. People attributed the ease of recall to music and not to the fact that they experienced a more assertive behavior. Similarly, when people expect the recall task to be difficult, the recall problem has no effect on the assessment of people’s assertiveness. Empirical results demonstrate that the expectation of a subjective experience influences the impact of the fluency of recall on the evaluation of the amount of behaviors engaged. In the next part we detail the theory that explains these results more precisely.

There are many types of information processing fluency (subjective experiences with which individuals easily process information) that impact the judgment of individuals across a wide range of social dimensions (Alter and Oppenheimer, 2009); the variables that determine the allocation of inferences are applied to all types of information processing fluency (Schwarz, 2004). Schwarz et al. (1991) showed that fluency of processing influences the judgment regardless of the content accompanying the subjective experience of fluency. In this sense, what influences the consideration of fluency recognition of an individual (Jacoby and Whitehouse, 1989) is applicable to the concept of fluency of recall.

The recognition of a stimulus by an individual depends on the possession of a trace of it in his memory; a trace left after an encounter between the individual and that stimulus. Proximity with the stimulus will activate its trace in memory; the recognition of a stimulus will be the

conscious perception of the resonance of this activated trace. In this sense, the possession of an event trace in memory is a necessary and sufficient cause to recognize an object. Despite this logical notion of recognition, Jacoby and Whitehouse (1989) showed that one can recognize an object or a person without having encountered them before. This phenomenon of a feeling of familiarity is explained by the fluency of information processing on the object or the individual. They showed that people use fluency heuristics in recognition. People can judge that an object has been seen or encountered by assigning fluency of information processing to past experiences with that object. This attribution act is considered unconscious; on the opposite, the perception of familiarity is consciously felt (Whittlesea and Williams, 1998).

Similarly to the availability of heuristic by Tversky and Kahneman (1973) and the ease of retrieval by Schwarz et al. (1991), there is a lot of evidences on the fluency of information processing such as: perceptual fluency (Novemsky et al, 2007) ; cognitive fluency (Stepper and Strack, 1993) or linguistic fluency (Alter and Oppenheimer, 2008). Despite the empirical validity of this evidence in other areas, the idea that we unconsciously assign a heuristic only from a simple information processing fluency raises several questions. For example, Whittlesea and Williams (1998) have questioned the fact that there is no feeling of familiarity when we meet someone known. They wonder why in some cases, even if there is a fluency of processing, the assignment of a heuristic does not occur.

Whittlesea and Williams (1998) have shown that to experience a feeling of familiarity, we must be surprised by our fluency of processing. If the stimulus information is processed fluently in an expected context, this exposure to the stimulus will not produce a feeling of familiarity. They presented individuals with three types of words: well-known words (i.e. TABLE), non-words that are difficult to pronounce (i.e. LICTPUB) and non-words that are easy to pronounce, created from real words by changing one or more letters (i.e. HENSION). Each type of stimulus was studied within a recognition test. During the test, the individuals

first pronounced each word (to measure the fluency of processing) and made a recognition decision to see whether the stimulus is considered new or old for them. Natural words (i.e. TABLE) were treated very easily (827ms), but were not associated with old words. On the opposite, the quasi-homophone words (i.e. HENSION), even if they have been treated with less fluency than normal words (988ms), produced more false alarms because they were considered as old words (37% vs 16%).

Whittlesea and Williams (1998) explained this phenomenon with the fact that when individuals easily pronounce the non-words, they are surprised and the unknown source is falsely attributed to the past. For example, when people read "HENSION", they are expecting a significant word, but it was a non-word. This is the surprise associated with the incompatibility between the expectations and the results that guided this feeling of familiarity. That is to say, the word "HENSION" was treated in a more fluent way than what was expected for a non-word which created a perception of divergence, followed by an unconscious allocation of the processing fluency heuristic, leading at the end to a feeling of familiarity. In marketing, these results were replicated by Menon and Raghurir (2003) using the ease of recall.

Section 4: Conditions of the Relationship between Difficulty of Recall and Desire

4.1. Episodic vs. Semantic Information of Past Experiences

Conceptualizations or images from past experiences include sensory information (e.g. the smell of a pizza), semantic information (e.g. the size of pizza, the sale location) and episodic information (how good the pizza tasted and emotional reactions) (Kavanagh, Andrade, and May, 2005). In our research, we include sensory information in episodic information (Tulving, 2002). In this sense, the influence of recalling past experience on desire depends on the type of information that is to be processed (Kavanagh, Andrade, and May, 2005). This means that recalling episodic information from past experiences will not impact the consumption desire in the same way as recalling semantic information. For instance, recalling episodes or moments from past experiences could impact desire differently than recalling where or when experiences were lived. We will explain these two different kinds of information in the following part.

4.1.1. Recalling Episodic Information of Past Experiences

Episodic information represents knowledge that consumers have about past experiences, including emotions and sensations tied to these experiences. This information tends to be primarily sensory, mainly involving visual images, although they may also include sounds, smells, tastes and tactile sensations from past experiences (Tulving, 1972; 1983; 2002). For example, recalling the last shopping experience in a supermarket can be described by the meeting of friends, finding exclusive product promotions or new brands, having agreeable personal contact, etc.

The influence of recalling episodic information on desire is achieved differently by the processing of information. As showed in the Figure 5, the systematic processing of episodic

information from past experiences directly impacts the consumption desire. This is in accordance with the Kavanagh, Andrade, and May (2005)'s Theory of Desire. For example, objectively recalling the past rewarding consumption of a pizza would trigger emotions, feelings or good memories, and consequently desire for this pizza will be higher. The output related to systematic processing of episodic information is called central information. We name central information because it corresponds to the heart of past experiences (e.g. emotions, feeling and imagery) and directly impacts desire through the simulation of rewarding experiences. However, desire can be indirectly impacted by peripheral information through the feeling of deficit when individuals heuristically process the episodic information from past experiences. For example, if the recall of past consumptions of the same pizza is easy, consumers can heuristically process this information and think that they have consumed it a lot. Desire is not based on the central information of rewarding experiences but rather on the peripheral information using heuristics. We call it peripheral information because it does not directly correspond to past rewarding experiences but to information produced during the use of heuristics. The terms "central" and "peripheral" information are in accordance with the Petty and Caciopo (1986)'s Elaboration Likelihood Model of persuasion.

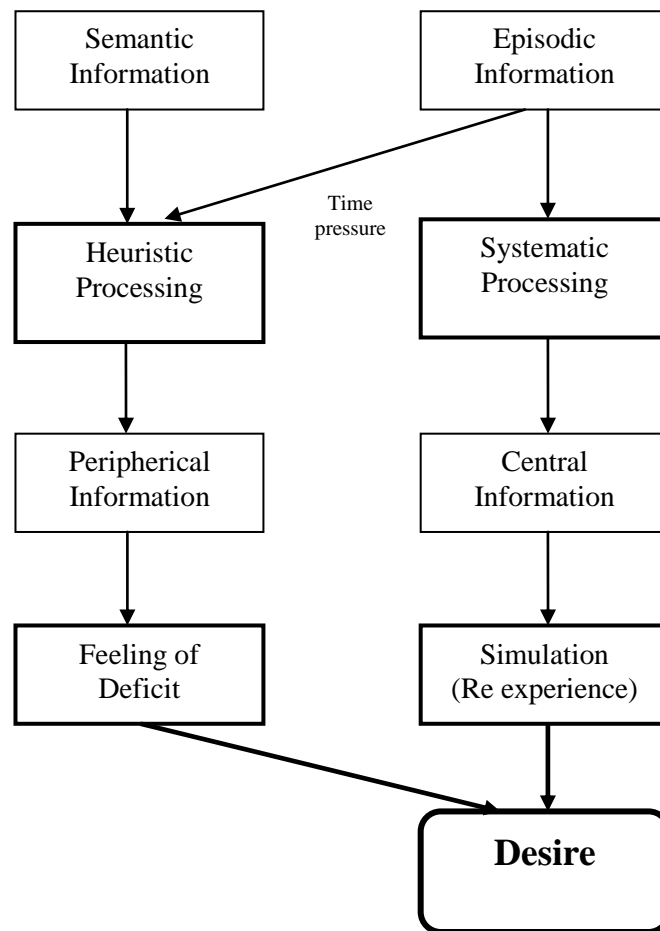


Figure 5 : Episodic vs. Semantic Information Processing

4.1.2. Recalling Semantic Information from Past Experience

Semantic information is the general fact about an entity or an experience that is detached from specific episodes (Tulving, 1972; 1983; 2002). A lot of what we store in memory is not related to specific past episodes. For example, we know that McDonald's products are full of calories, that in Brest we can find the best crepes or even that flight costs are higher in the summer, etc. In the case of recalling past experiences, semantic information refers to general knowledge of the experiences such as the place, the date, etc.

In the same way as episodic information, systematic and heuristic processing may be applied to semantic information (as showed in Figure 5). Desire may be influenced by peripheral

information produced during the heuristic processing of the semantic information. For example, the difficulty of recalling semantic information could be heuristically processed and infer that individuals have not consumed a lot of products, and consequently affect desire through the feeling of deficit. However, in the case of the systematic processing, semantic information of past experiences does not impact desire because it does not stimulate the simulation of rewarding experience.

4.2. *Time Pressure*

In this part, we focus on other conditions such as time pressure. We think that this variable can impact the relationship between the recall of past experiences and desire.

In the literature, time pressure, time constraint, and time scarcity are interchangeable terms. Time pressure refers to the perceived limitation of time available to process information or decision making (Suri and Monroe, 2003). The perception of time is a subjective estimation of elapsed time and it affects the behavior of individuals. In order to realize activities, individuals can feel unable to consecrate enough time. For this reason, time pressure can also be considered as the difference between the amount of required and available time (Rastegary and Landy, 1993).

Time pressure is identified as an exogenous variable capable of influencing consumer behavior (Howard and Sheth, 1969). Time pressure may limit the amount of information that will be processed and thus impact the consumer's decision-making (Iyer, 1989; Park et al., 1989; Pieters and Warlop, 1999). For example, when under time pressure, consumers were less able to recall the encoded purchasing sequence and turned to unplanned purchases and to brand/product switching (Park et al., 1989). Time pressure may primarily impact the process of information processing through (1) accelerated pace of decision with the use of non-compensatory models (Bettman et al., 1998; Mantel and Kellaris, 2003; Suri and Monroe,

2003), (2) tendency to use heuristics to simplify the cognitive task (Andersen et al., 2007; Chaiken, 1980; Kaplan et al., 1993). We are interested in the last.

In addition, according to the heuristic-systematic model (Chaiken, 1980), the use of heuristics for the recall of past consumption of a product can depend on the time pressure that consumers perceive. This means that in conditions of time pressure, consumers have the tendency to use inferences in order to shorten the time for finding the solution to problems. Individuals are more likely to pass from a systematic processing to heuristic processing (as showed in Figure 5). For example, consumers are more likely to infer the relationship between a high price and high quality when they are under time pressure (Suri and Monroe, 2003).

Section 5: Desire and Behavior

Since desire is a psychological state of motivation for an appetitive stimulus source of pleasure, the immediate consequence of desire for consumption would be action. The simulation of rewarding experiences has the potential of enacting the behavior of individuals for appetitive stimuli. For example, imagining great experiences in past vacations could incite individuals to search for information about travels, hotels, etc. Situated conceptualizations lead to the simulation of behaviors that have produced rewarding experiences in the past (Papies and Barsalou, 2015). People who are motivated to consume products will be pushed to realize acts in order to achieve the goal of consumption. For example, people who desire an apple will end up spending time and energy in order to be rewarded with pleasures generated by the consumption of this apple.

Desiring individuals are also motivated to realize actions because of the feeling of deprivation or deficit (Kavanagh, Andrade, and May, 2005). One theory that explains how deprivation results in motivated behaviors is that of homeostasis. It refers to the process by which a fixed level of essential resources is kept by organisms under varying conditions (Cooper, 2008). In our context, it would mean that individuals perceive the absence of an appetitive stimulus as something to counterbalance the production of motivation to realize behaviors. For example, if individuals who frequently consume chocolate feel a deprivation of consumption, then they will feel a strong motivation to buy it, in order to achieve their self-established fixed level of consumption.

The relationship between desire and behavior does not always exist. It is explained by the fact that when desire for consumption is in conflict with personal goals, a force of self-control can dominate the situation and avoid immediate behaviors. We are not interested in the effect of self-control on the desire but its theoretical consideration would allow us to explain the bias of the effect of desire on the behavior.

Section 6: Hypotheses

4.1. Hypotheses

Recalling semantic information of past experiences does not directly impact desire due to the fact that it does not stimulate simulations of rewarding experiences. Individuals are not influenced by episodic factors. However, desire could be influenced by heuristic processing of semantic information. The difficulty of access to information in our memory can make individuals use inferences in order to find an explanation to such difficulties (Schwarz et al., 1991). Individuals unconsciously and automatically assign the difficulty of recalling to the fact of not having experienced a lot (Menon and Raghurir, 2003). Consumers use the difficulty inference: "it is difficult to recall, so I have not consumed a lot" (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kahneman, 1973; Whittlesea, 1993) to estimate their past consumptions. Given that the consumption desire depends on the feeling of deficit (Kavanagh, Andrade, and May, 2005), if consumers think that they not have experienced a lot, then they feel more desire for consumption. In this way, desire can be constructed based on the perception of past consumptions in accordance with previous studies (Galak et al., 2009; Redden and Galak, 2013; Wansink et al, 2005). In the case of purchase intention, the attempt to buy a specific product could also be influenced by the feeling of deficit perceived by individual when they find that the recall of past consumptions is difficult. Based on this argument, we propose:

H1a: the difficulty in recalling past consumptions of a preferred product has a positive effect on the desire to consume that product, when consumers recall semantic information and consumers are not under time pressure.

H1b: the difficulty in recalling past consumptions of a preferred product has a positive effect on the purchase intention of that product, when consumers recall semantic information and consumers are not under time pressure.

The important condition for an individual to use the difficulty inference "it is difficult to recall, so I have not consumed a lot" (Schwarz et al., 1991; Tversky and Kahneman, 1973; Whittlesea, 1993) is related to the idea that there must be a difference between the actual difficulty of information processing and the expected one (Whittlesea and Williams, 1998; 2000; 2001a; 2001b). To have the possibility of using inferences, there must be a dissonance between our experiences expectations and what we are actually experimenting. For instance, if a consumer already knows that finding ten positive attributes of a product is difficult, then he or she will not attribute this difficulty to the fact that the product does not have a lot of positives attributes. Thus, the product will always be considered to be of good quality whenever this inference is not applied (study 2, Menon and Raghurir, 2003). Similarly, if a consumer is facing a difficult choice (price and quality) within three alternatives, he or she will not tend to use inference regarding the fact of choosing the medium choice (the compromise effect, Simonson , 1989) if he or she already knows that this choice was also difficult for other consumers (Study 4, Novemsky et al. , 2007). Based on this argument, we propose:

H2a: when consumers recall semantic information and they are not under time pressure, the desire to consume a preferred product is stronger in case of the difficulty in recalling past consumption unexpected, rather than expected.

H2b: when consumers recall semantic information and they are not under time pressure, the purchase intention of a preferred product is stronger in case of the difficulty in recalling past consumption unexpected, rather than expected.

If consumers are asked to recall episodic information of their past experiences, the systematic processing of episodic information would make individuals influenced by emotions based on the construction of image, that are vivid and richly textured (Kavanagh, Andrade, and May, 2005). In this sense, they would be affectively engaged to make the effort of recalling past

experiences, and consequently not be influenced by the inference of difficulty of recall. If individuals are not influenced by the difficulty of recall, then they would not feel a deficit of consumption, and consequently, desire would not be affected by such a deficit. Based on this argument, we propose:

H3a: the effect of the difficulty in recalling past consumptions of a preferred product on the desire to consume that product is not replicated, when consumers recall episodic information and consumers are not under time pressure.

H3b: the difficulty in recalling past rewarding consumptions of a preferred product on the purchase intention of that product is not replicated, when consumers recall episodic information and consumers are not under time pressure.

The manner in which information is processed also depends on the rise of time pressure (Payne, Bettman and Johnson, 1988; Suri and Monroe, 2003). When the amount of resources required to make a decision is greater than the available resources, the consumer could use inferences (Mantel and Kellaris, 2003). For example, if a consumer is pushed by time to decide to buy or not to buy a dirt-cheap drill, he or she would buy it with absolutely no idea if one day he or she would use it. A consumer will only reason by taking into account the derisory price of that drill. For this reason, we argue that, when under time pressure individuals will have the tendency to use the difficulty inference "it is difficult to recall, so I have not consumed a lot" (Schwarz et al., 1991; Tversky and Kahneman, 1973; Whittlesea, 1993), when recalling past experiences is difficult.

Based on this argument, we propose:

H4a: the difficulty in recalling past consumptions and time pressure interact to positively influence the desire to consume the preferred product, when consumers recall episodic information.

H4b: the difficulty in recalling past consumptions and time pressure interact to positively influence the purchase intention of the preferred product, when recall episodic information.

Summary of Chapter III

This chapter developed the conceptual model and research hypotheses of the present thesis.

The first part of the chapter reviewed the literature on theories of desire. We presented the Papies and Barsalou (2015)'s Grounded Theory of Desire which stipulates that the process of desire is created by stored conceptualizations related to past experiences, pattern completions between current and past experiences, and simulations of rewarding experiences. Then, we showed Kavanagh, Andrade, and May (2005)'s Elaborated Intrusion Theory of Desire which refers to the cognitive elaboration of information having intrusive thoughts as an input. The latter involves learned associations to recall past experiences and they can be distinguished in: physiological deficit states, negative affect, external cues, cognitive activity and anticipatory responses to the stimulus. In addition, in this section we presented the differences between these theories and an integration of its theoretical contribution.

The sections two and three of this chapter proposed an application of the dual process theory (Chaiken, 1980, Chaiken and Trope, 1998) to the relationship between the recall of past experiences and desire. We principally focused on the heuristic approach of information processing; we proposed that consumers can also be influenced by inferences. The difficulty inference "it is difficult to recall, so I have not consumed a lot" is analyzed and proposed as an explanation for the influence of the difficulty of recall on desire. In addition, we explained some properties of the inference such as the automaticity, the expectation of difficulty and its relationship with quantity consumed.

Section four reviewed some conditions of the relationship between the difficulty of recall and desire. We proposed that recalling episodic information of past experience influences desire differently than recalling semantic information. Episodic information represents knowledge that consumers have about past experiences, including emotions, sensations tied to these

experiences, whereas semantic information is the general fact about an entity or an experience that is detached from specific episodes (Tulving, 1972; 1983; 2002). In addition, according to the heuristic-systematic model (Chaiken, 1980; Chaiken and Trope, 1998), the use of heuristics for the recall of past consumption of a product can depend on time pressure that consumers perceive. This means that in conditions of time pressure, consumers have the tendency to use inferences in order to shorten the time for finding the solution to problems.

Section five explained the relationship between desire and behavior; we proposed that people motivated for consuming products will be pushed to realize acts in order to achieve the goal of consumption. Finally, section six presented the four hypotheses of our research which derived from the literature review.

Synthesis of the first part contributions

Chapter I: Ontological Analysis of Desire, Definition and Conceptual Discrimination

- Explores the concept of desire from its philosophic dimension, highlights the main contributions of philosophers (e.g. Plato, Descartes) that examined the desire as essence to the human life.
- Reviews literature on all the distinctive aspects of desire treated principally in psychological works, defines the concept of desire and shows differences to other close concepts such as attitude, preference and temptation.

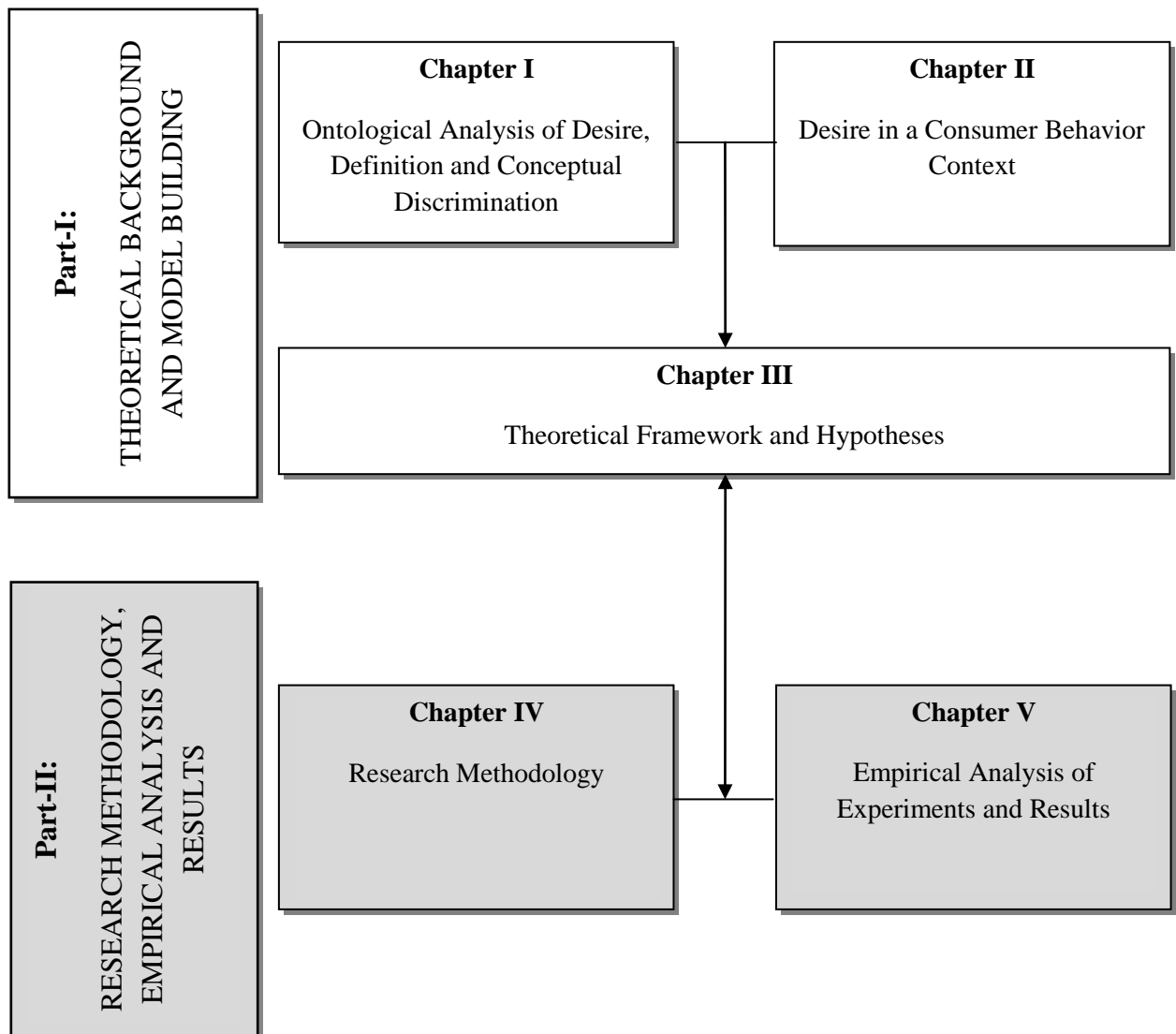
Chapter II: Desire in a Consumer Behavior Context

- Outlines the strong relationship between advertising and desire, advertising has a powerful influence on adapting and changing habits or life styles of people.
- Highlights the relevance of hedonic products as sources of desire, and reviews the multi sensory aspect of hedonic products.
- Reviews other possible situations in the consumption process such as souvenirs and positive rumination where desire can be activated.

Chapter III: Theoretical Framework and Hypotheses

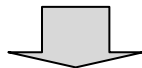
- Integrates theories of desire such as Papies and Barsalou's (2015) grounded theory of desire and Kavanagh, Andrade and May's (2005) elaborated intrusion theory of desire.
- Applies the Dual Process Theory (Chaiken and Trope, 1998) in the context of desire focusing principally on the heuristic aspect (use of inferences).

PART-II: RESEARCH METHODOLOGY, EMPIRICAL ANALYSIS AND RESULTS



Part-II:

RESEARCH METHODOLOGY, EMPIRICAL ANALYSIS AND RESULTS



Chapter IV

Research Methodology

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CHAPTER IV: RESEARCH METHODOLOGY

Introduction of Chapter IV

All scientific work requires a research methodology. The methodology is the proper use of methods and techniques available to the researcher. The methodology specifies the ways in which it is proposed to organize the research and the research techniques used to achieve the research objectives.

This chapter presents research methodologies that have been used in this study, which is composed by two sections.

Section 1 introduces our epistemological choice and the methods used to validate our causal relationships. In this section, we also justify the application of the experimental method.

Section 2 describes the methods for the validation of the measurement scales, the experimental validation and test of research hypotheses.

Section 1: Epistemological Perspective and Scientific Method

Our research is situated within the post-positivist paradigm of scientific realism (Hunt, 1990, Hunt and Hansen, 2008) because we believe that there is a reality outside the human mind. Although this perceived reality is biased by subjective representations of humans through the lived experience of the observer, the progress of science and its methods should prevent or reduce such bias. Reality exists but it can be only explained by representations that are called "knowledge." We think that researchers should propose theories in order to explain what humans experience in the interaction with nature or other people. These theories cannot be verified but only falsified (Popper, 1959), and they are socially established (Kuhn, 1962). These theories are called "audacious" (Chalmers, 1982, p. 100-102). We also believe that there are universal laws that determine our reality, but just like the universe these laws are constantly changing; especially social laws that depend on the observer and the changing context. Thus, we believe that social phenomena must be explained by causality which is the search for causes and effects of such phenomena. Finally, we believe that hypotheses of "audacious" theories should be formulated through conjectures using logic and deductive reasoning (hypothetical-deductive approach).

In this research, to validate our hypotheses on the causal relationship between the difficulty of recall and desire (and purchase intention), we set up three experiments. We use experimentation because we need to manipulate and control conditions in several randomly selected groups in order to determine causal relationships. We handle the difficulty of recall and the time pressure. The application of the experimental method meets the following three conditions: (1) to randomly assign treatments and experimental units to the different experimental groups; (2) to control the influence of external variables; and (3) to measure the main effect of different factors and the effects of their interactions.

The factorial design is in line with the hypotheses that we want to test. For the first experiment, we use 1-factor design and we add one condition. However, we use a full factorial design for the second and third experiment in order to identify the effect of each factor as well as their interactions. We retain independent measures; this will allow us to analyze between-group differences.

Section 2: Methodology for Validation of Measurement Scales, Experimental Validation and Test of Research Hypotheses

This section refers to the presentation of the methods used to validate the measurement scales and to test the hypotheses of our research.

2.1. *Validation Method of Measurement Scales*

Measurement scales must meet two criteria: reliability and validity. In the following part, we present the criteria of reliability and validity that we used to test the psychometric properties of the measurement instruments.

2.1.1. Reliability of Measurement Scales

The reliability consists in ensuring that the measurement instruments when used under the same conditions can reproduce consistent results. Cronbach's alpha (α) is used as an estimate of the reliability of a psychometric test and can be viewed as the expected correlation of two or more items that measure the same construct. It is a function of the number of items in a psychometric test, the average covariance between item-pairs, and the variance of the total score.

$$\alpha_{\text{standardized}} = \frac{K\bar{r}}{(1 + (K - 1)\bar{r})}$$

K = number of variables or items

r = average correlation between variables

When α is close to 1, this reflects high reliability. The reliability of a scale is satisfactory if the coefficient α is superior to 0.6 (Evrard et al., 2009).

2.1.2. Validity of the Measurement Scales

The validity of an instrument reflects its ability to accurately measure the construct that researchers want to measure. A measurement scale may be valid by principally three types of validity: convergent validity, discriminant validity and nomological validity.

- Convergent validity: it refers to the degree to which a measure is correlated with other measures that it is theoretically predicted to correlate with. The convergent validity is verified using the convergent validity rho (ρ_{vc}). It is satisfactory when the coefficient ρ_{vc} is greater than 0.5 (Fornell and Larcker, 1981).
- Discriminant validity: it tests whether measurements that are supposed to be unrelated are in reality unrelated. It involves comparing the squared correlations between latent variables ρ_{vc} each. ρ_{vc} must be greater than the square of their correlations.
- Nomological or predictive validity: is the extent to which a scale predicts scores on some criterion measure.

Normality

The first condition to realize the factor analysis consists of the normal distribution of data. The Kolmogorov-Smirnov test and Shapiro-Wilk is used to assess the normality of the data. Generally, if this test is not significant, the quasi-normality of the data can be used. The latter is verified by means of asymmetric coefficients (skewness) and kurtosis (kurtosis), which should be between -1.5 and 1.5.

Multicollinearity

The variables need not be highly correlated. Strong collinearity between variables may indicate that some of them are redundant. To examine multicollinearity, we rely on the values

of tolerance and VIF (Variance Inflation Factor). When these values are less than 0.3 and 10 respectively, this shows the lack of a strong multicollinearity.

Factorability

To ensure that data is factorable, correlations between variables must be significant. The Bartlett sphericity test verifies this condition, and if it is significant, the null hypothesis of no correlation is rejected (that is to say, the correlation matrix is different from the identity matrix). The KMO test (Kaiser-Meyer-Olkin) also verifies the factorability of the data. It is recommended that the KMO is between 0.7 and 1.

Dimensionality

To determine the number of axes to remember, we used the criteria often used in marketing research, the Kaiser criterion and the percentage of variance extracted. Based on the graph of the eigenvalues and according to the Kaiser criterion, we retain only factors with eigenvalues greater than 1. Finally, the factors to retain must explain the maximum of the total variance. Some authors such Hair et al. (1998) consider a minimum threshold of 50% of the total variance explained.

2.2. *Experimental Validity*

The validity of the design of experimental research studies is a fundamental part of the scientific method.

2.2.1. Internal Validity

- Test Effect: there can be a test effect when questioning the same people during the pre-test and the experiment. Thus, familiarity with the test situation can affect the responses during the experimental phase.

- Contamination effect: it can occur when participants discuss about the subject and purpose of the experiment. This may increase the probability of responding artificially. The risk of creating this effect is particularly important when the experiments were performed in vitro and during several days.
- Effect of the instrument: the instruments used to measure the variables and collect data can influence the answers.
- Selection effect: this effect can lead to differences in results that are related to pre-existing characteristics of the target population of the experiment.
- History effect: a period of time between the exposure of individuals to the experimental treatment and the measurement of the dependent variable can cause a history effect. Thus, some events may occur during this time and influence the results of the experiment.
- Statistical regression effect: this effect is important when there are too important initial differences between experimental groups.
- Experimental Mortality Effect: This effect occurs when certain subjects abandon the experiment.

2.2.2. External Validity

It concerns the extent to which the (internally valid) results of a study can be held to be true for other cases, for example to different people, places or times. In other words, it is about whether findings can be validly generalized. If the same research study was conducted in those other cases, would it get the same results?

2.3. *The Methodology of Test Research Hypotheses*

Our research model includes two types of variables: binary categorical variables manipulated according to a factorial design and metric variables measured on interval scales. We therefore used analysis of variance and linear regression to test our hypotheses.

2.3.1. Analysis of Variance (ANOVA)

Our main objective is to verify the existence of a causal relationship between independent and dependent variables. In this study, we conduct analyzes of variance (ANOVA) to test hypotheses regarding the outcomes and effects of interaction between the variables of the experimental design. Thus, it is important to verify the independence of observations, the homoscedasticity of variables and normality and the correlation of dependent variables.

2.3.1.1. Conditions of Application of Analysis of Variance

- Independence of observations: respondents have to be randomly assigned within the experimental groups.
- Homoscedasticity: This condition relates to the equality of variances of the dependent variables among the different experimental groups. It can be verified using the Levene's test for univariate analysis of variance.
- Normality of dependent variables: these variables must be normally distributed within each test cell. This condition can be tested by using symmetry of coefficients (skewness) and kurtosis (kurtosis). Analysis of variance is sensitive to the violation of the distribution of normality assumption (Hair et al., 1998).
- Correlation of dependent variables: it is necessary that dependent variables are correlated. This condition can be verified using Pearson linear correlation coefficients.

2.3.1.2. Interpreting the Results of the Analysis of Variance

As we used a one-way ANOVA to test hypotheses, the t-test is used to indicate the significance of the effect of independent variables on dependent variables with a confidence

interval. In addition, the partial Eta squared coefficient allows us to know the percentage of variance in the dependent variable explained by the independent variable.

2.3.2. Linear Regression

In the same way as the analysis of variance, we must verify the conditions of the use of linear regression. These conditions refer to the linearity of the relationship between the dependent and independent variable, the absence of a strong multicollinearity between the independent variables in the case of multiple regressions, the homoscedasticity, the independence and normality of residues. In the interpretation of the results of the linear regression, the Student t test is used to test the significance of the effect of each independent variable through its regression coefficient. When t (in absolute value) is greater than 1.96, the significance of which must be less than α , we reject the null hypothesis of no effect and conclude that there was a significant effect of the explanatory variable on the dependent variable. The coefficients of determination R^2 or adjusted- R^2 show the percentage of variance in the dependent variable explained by the independent variables.

Summary of Chapter IV

This chapter presented the methodological choices used for the collection and analysis of our data in order to test the research hypotheses.

We proposed experimentation to manipulate conditions in several random groups, to control the influence of external variables and to test the causal relationships. We presented the types of experimental designs in order to have an overview of our experimental choice.

We also presented in this chapter the methodology of purification and validation of our measuring instruments. The validation method of measurement scales was introduced first. The reliability (alpha of Cronbach) and the validity (convergent, discriminant and nomological) of measurement scales were explained. Conditions to realize the factor analysis were presented: normality, multicollinearity, factorability.

We presented experimental validity: internal and external. Internal validity refers to test, contamination, instrument, selection, history, statistical regression, experimental mortality effects. External validity refers to which extent the results of a study can be generalized for other cases.

Finally, we presented the methodology of test research hypotheses. We proposed the analysis of variance to verify the existence of causal relationship between independent (categorical) and dependent (continuous) variables. We presented the conditions of application of analysis of variance: independence of observations, homoscedasticity, normality of dependent variables, and correlation of dependent variables. The interpretation of results is realized by the test F in order to indicate the significance of the effect of independent variable with a confidence interval. We also presented the linear regression to test the causal relationship when the independent variable is continuous. For instance, we used it for the relationship between desire and purchase intention.

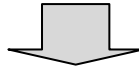
PART-II:
**RESEARCH METHODOLOGY, EMPIRICAL
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CHAPTER V: EMPIRICAL ANALYSIS OF EXPERIMENTS AND RESULTS

Introduction of Chapter V

This chapter is devoted to the analysis of the results of our experiments.

We test our hypotheses through three experiments. The purpose of the first experiment is to validate the effect of the difficulty in recalling past consumption on desire and purchase intention (H1a, H1b) and to validate the effect of the expected difficulty (H2a, H2b) when consumers recall semantic information and they are not under time pressure. In addition, this experiment also demonstrates the effect of desire on purchase intention. Experiment 2 serves to validate that the difficulty in recalling past consumption neither influences desire nor purchase intention (H3a, H3b) when consumers recall episodic consumption, the difficulty task is expected, and consumers are not under time pressure. In experiment 3, when consumers are under time pressure and recall episodic information, this experiment purposes to validate that consumers' desire and purchase intention is higher when the recall is difficult (H4a, H4b).

For each experiment we develop the following steps: experimental design, operationalization and manipulation of experimental parameters, description of experimental scenarios, manipulation check of scenarios, criteria for internal and external validity, measurement instrument development, presentation of samples, data collection procedure, validation of the reliability of scales and manipulation check, test of hypotheses and discussion.

Section 1: First Experiment with Non Alcoholic Drinks

1.1. *Experimental Design*

The variable difficulty of recall with two levels was manipulated: “ease of recall” vs. “difficulty of recall”. We added the level “difficulty of recall with attribution” in order to test the effect of the expected difficulty. Three scenarios were created. We chose independent measurements, so each respondent participated in one of the three scenarios and constituted an observation. A minimum of 40 respondents per experimental group were interviewed. Before explaining the three experimental scenarios, we first described the operationalization and manipulation of experimental parameters.

| Scenario | Fluency of recall | Type Information | Expectation | Time Pressure |
|----------|-----------------------------|------------------|-------------|---------------|
| 1 | Ease | Semantic | No | No |
| 2 | Difficulty | Semantic | No | No |
| 3 | Difficulty with attribution | Semantic | Yes | No |

Table 1 : Experimental Design (PE)

1.2. *Operationalization and Manipulation of Experimental Parameters*

As postulated previously, we manipulated the difficulty of recalling past consumption experiences for the two first scenarios and we attributed the expected difficulty to the third scenario.

Previous studies have used the questioning of a number of past experiences or situations in order to manipulate the difficulty of recall. For example, Schwarz and al. (1991) asked individuals to describe either 6 or 12 examples of situations in which they “behaved very assertively and felt at ease”. For 6 situations, individuals find the task easy whereas for 12 situations the task was found difficult. In the same way, Winkielman, Schwarz and Belli (1998) asked participants to recall either 4 or 12 childhood events. Whereas the former task was experienced as easy, the latter was experienced as difficult. In consumer behavior, Menon

and Raghurir (2003) asked consumers to complete a recall task subsequent to exposure to an advertisement that listed 10 product features. The length of the recall task (recall two vs. eight) was used to manipulate the difficulty of recall. Recalling eight (two) product features was difficult (easy) for consumers. In our research, for this experimentation we use the recall of the last experience as easy and the recall of last three experiences as difficult. To manipulate the difficulty of recall, we asked the experimental group in the first scenario: *"Try to remember the last time you consumed this drink "*, and we added this question *"When was the last time you consumed this drink?"* in order to make the consumer focus on the date of consumption (semantic information) and not on the experience it-self (episodic information); in the same way, for the group in the second scenario we asked: *"Try to remember the last three (3) times you consumed this drink"* and *"When was the last time you consumed this drink?"*, *"When was the penultimate time you consumed this drink?"*, and *"When was the pre-penultimate time you consumed this drink?"*

In addition, we added the expectation of the task as a condition for the group in the third scenario. We used the technique of "misattribution of feelings" (Schwarz, 1991; Schwarz and Clore, 2007) that shows the expected difficulty effect. Past research demonstrated that when individuals expected the recall task to be easy, they did not use this ease as information. For instance, Schwarz et al. (1991) demonstrated that individuals did not feel the effect of ease of recall when they were told that the music is known to facilitate the recall of autobiographical memories. The ease of recall was not used as information. In the same way, Menon and Raghurir (2003) manipulated through initial instructions informing individuals that a nationwide study conducted among other students like them revealed that the recall task they performed was considered as easy instead of difficult. They found that when individuals were told that other students performed an easy recalling task, ease of recall was not used as information. In addition, Redden and Galak (2013) told individuals "so you know, recalling

six past instances of when you last heard song may be quite difficult”. The difficulty associated with recalling the last six instances was attributed to the natural difficulty of the task. In this way, the difficulty of recall was not used as information. In our experimentation, we added the following sentence to the individuals under difficulty condition: “*You know, remembering the three (3) last times when you consumed this drink can be quite a difficult task*” to assign the difficulty to the task (misattribution of the difficulty of recall) and not to the fact that they have not consumed the drink very often.

1.3. Description of Experimental Scenarios

The following paragraphs describe the different experimental scenarios.

Scenario 1

We presented a list of drinks to participants containing the most popular soft drinks in Peru, including Coca Cola, Pepsi Cola and local brands (Appendix I). Refreshing drinks were chosen because they have predominantly hedonic characteristics and are consumed with a repeated usage rate. We asked participants to choose the drink they prefer most and frequently consume. Then, we asked participants to recall the last time when they consumed the selected drink. The recall of the last time of consumption refers to the level “ease of recall” and the question about “when” they consumed the drink refers to semantic information of past consumption experiences. The manipulation of the expected difficulty is absent in this scenario.

Scenario 2

The list of drinks was presented in the same way for all scenarios in the first experiment. The specificity of this scenario is that we asked participants to recall the last three times when they consumed the previously selected drink. The level “difficulty of recall” was referred to by the recall of the last three times of consumption and the use of “when” refers to semantic

information such as the first scenario. The manipulation of the expected difficulty was also absent in this scenario.

Scenario 3

We presented the same list of drinks as in scenarios 1 and 2. Unlike past scenarios, the manipulation of the expected difficulty was present. For this, we firstly presented the “difficulty of recall” level and then we related this difficulty to the recall task. This attribution of the difficulty of recall to the recall task ensured that the difficulty of recall was expected. As in scenario 2, we referred the “difficulty of recall” level to the recall of the last three times of consumption and the semantic information was referred to by the use of “when”.

1.4. Manipulation Check of Scenarios

The control of experimental parameters is necessary to verify the effectiveness of the performed operations ("manipulation check"). To do this, questions about the manipulations must be asked after the experimental treatment. In our study, we manipulated one variable such as the difficulty of recalling past experiences (easy recall versus difficult recall). Underlying measures were thus introduced into the survey to ensure that the operations are actually received by the participants.

To ensure that the difficulty of recall has a significant impact, participants assessed the task difficulty with three statements:

- *“The recall task was difficult”*;
- *“The recall task took you a lot of effort”*;
- *“The recall task made you think a lot”*

(Menon, Raghubir and Schwarz, 1995), using 11-points likert scale (0 = *not at all agree*; 10 = *strongly agree*).

1.5. Criteria for Internal Validity of the Experiment

To ensure the internal validity of our experimental design, it was important to control some external variables and to ensure the homogeneity of subsamples.

1.5.1. Control of External Variables

The successful conduct of an experiment requires the control of external variables in order to avoid potential results bias. Control therefore eliminates the residual variance due to external factors. In our experiment, two external variables were controlled: the frequency of consumption and the preference for the drink. We asked individuals “*how much do you prefer this soda?*” on an 11-point like scale (0 = *not at all*; 10 = *very much*) for the preference and “*what is the frequency of consumption of this drink per month*” from 0 to 30 times.

1.5.2. Homogeneity Subsamples

The homogeneity of the three experimental groups was assured by controlling for socio-demographic variables and external variables. In order to compare the groups, we decided to retain only respondents with frequency a greater than 2 and preference greater than 4. We considered that an individual has a high frequency of consumption of a soft drink when he or she consumes that soft drink three or more times per month. In the case of preference, because the measurement is between 0 (not at all) and 10 (very much), we considered that individuals with a preference superior or equal to 5 have a relatively high preference for the selected drink.

The internal validity of the experiment can also be affected in other ways as we described in the research methodology:

- Test Effect: to avoid this effect, we use different samples to the pre-test phase and experimentation.
- Contamination effect: this is not our case, since the experiment took place online. We do not therefore risk the physical contact between the subjects at the time of their participation in the experiment.
- Effect of the instrument: in our case, the computer, specifically the Web, is the main tool with which we conduct the experiment and collect the data. However, visualization of experimental sites (colors, images and symbols etc.) can change depending on the Web browser and type of computer owned or used by the participant. To reduce the effect of the instrument, we introduced an http link of the site in the invitation message sent to all participants to enable them to visualize the test site with the same browser.
- Selection effect: to minimize this effect, we defined the criteria for selecting participants (Section 1.9.2.2) and held to randomly allocating experimental treatments.

1.6. Criteria for the External Validity of the Experiment

To increase the external validity, other experiments are performed on two different countries such as China and France. These experimental sites were hosted on the Internet to put respondents in a real situation and everyday navigation.

1.7. Measurement Instrument Development

In order to ensure the validity of the scales used in the research, almost all the questions were adapted from established measures developed by previous researchers.

1.7.1. Desire

Previous research about desire used different ways to measure this construct. For instance, Dai and Fisbach (2014) asked participants first to rate how much they missed having

a food item at that point in time, using a 9-point likert scale (1 = not at all; 9 = very much). Then participants rated how much they liked it, using a 7-point likert scale (1 = not at all; 7 = very much). In the same way, Hofmann et al. (2012) asked participants to indicate the strength of the desire on a 7-point likert scale (1 = no desire at all; 7 = irresistible) and the duration that participants had been experiencing the desire on a 10-point scale ((0–5 min, 6–10 min, 11–15 min, 16–20 min, 21–30 min, 31–60 min, 1–2 hr, 2–3 hr, 3–5 hr, >5 hr). Finally, Redden and Galak (2013) used desire for measuring the satiation of participants. They measured desire of participants by asking them to indicate how much they would like to eat the food right now on a 9-point scale (1 = not at all; 9 = very much).

In our research, we employed the measurement used by Redden and Galak (2013) in order to simplify the task of respondents. We asked them “*how much would you like to consume this drink now*” on an 11-point scale (0 = not at all; 10 = very much). We preferred to use an 11-point scale because respondent are familiarized with the evaluation from 0 to 10.

1.7.2. Purchase Intention

Purchase intention is one of the construct used most to know if consumers positively evaluate products and aim at their acquisition. Despite the large amount of measures for this construct, we preferred to use the Dodds, Monroe and Grevall (1991)’s scale adapted to our context: “*How likely would you buy this drink, if you had the opportunity right now*” and “*Would you intend to buy this drink, if you have the opportunity right now*” on a 11-points scale (0 = not at all; 10 = very much).

1.8. ***Presentation of Samples and Analysis of Preliminary Data***

We will first describe the initial sample, then the purification steps of the sample to be analyzed. Finally, we present the final sample and its socio-demographic characteristics.

1.8.1. Initial Sample

In November 2014, 157 surveys were completed on three experimental sites. Table 2 below shows the initial distribution of respondents in the three experimental groups. Initially, each group is composed of at least 50 observations.

| Conditions | Ease of recall | Difficulty of recall | Difficulty of recall with attribution |
|------------|----------------|----------------------|---------------------------------------|
| Sample | 50 | 53 | 54 |

Table 2 : Distribution of Respondent in the Initial Sample (PE)

We performed the analysis of outliers to see if certain observations should be deleted. To examine the extreme values, we analyzed the box plot of variables and calculated the Mahalanobis's distance. Concerning the data collected on the web site, no extreme value was found.

1.8.2. Purification of Data

We used the control variables, frequency of consumption and preference for product, in order to purify the data and to avoid the bias in the experimental groups. The measurement of control variables was presented in Section 1.5.1.

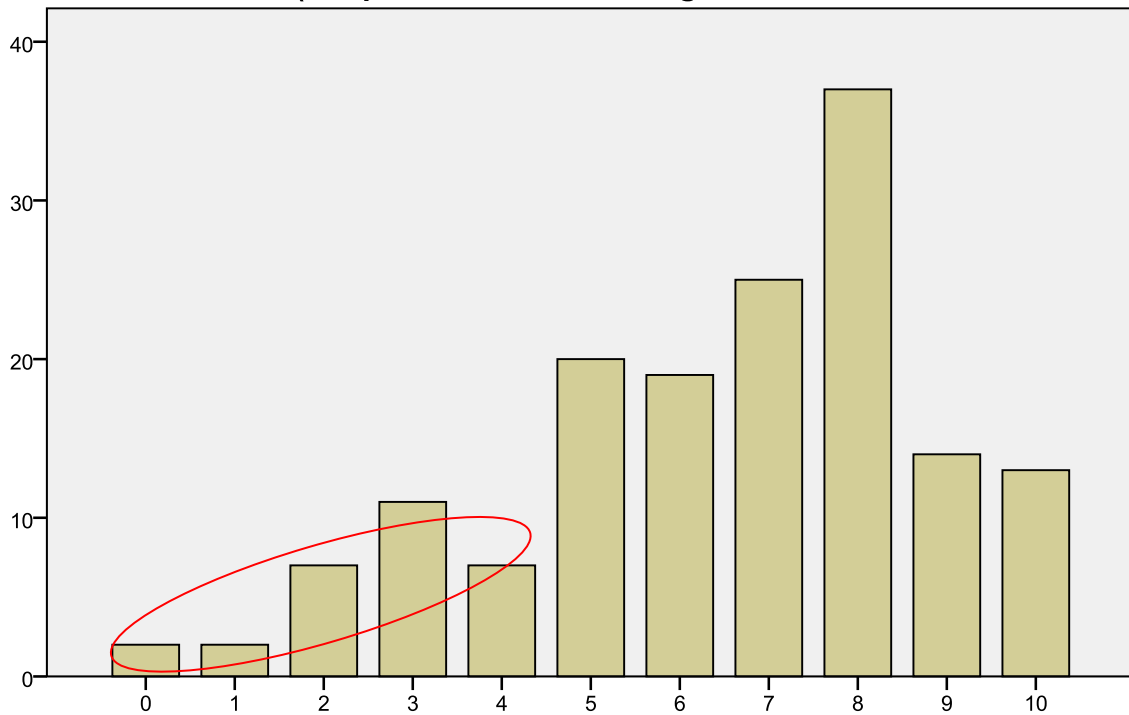


Figure 6 : Preference for Products (PE)

We decided to retain only respondents with a high frequency of consumption, superior to 2 per month, and a relatively high preference for products superior to 4 (Section 1.5.2). We carried out the purification of the initial sample based on these two control variables. Control of the frequency of consumption revealed that 53 respondents did not have a high frequency, and control of preference revealed that 24 respondents did not have a high preference for products, of which 11 respondents are already included in the 53 respondents with a low frequency of consumption.

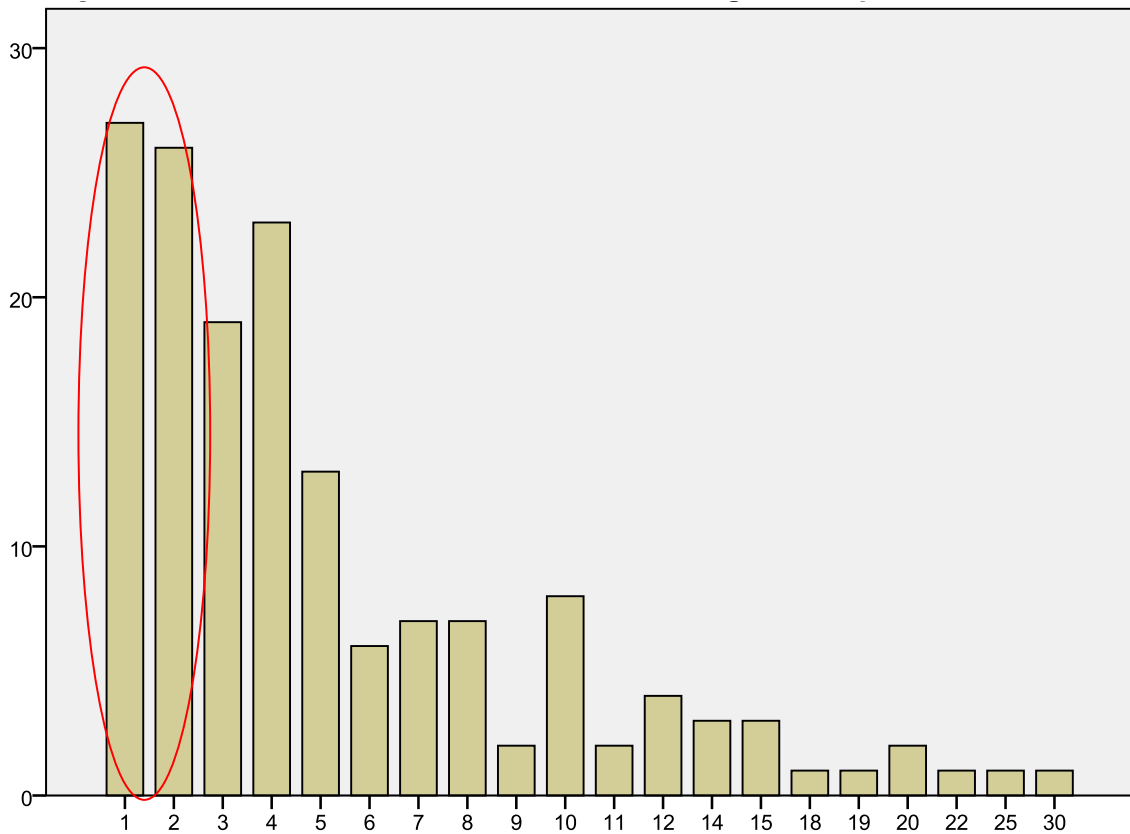


Figure 7 : Frequency of consumption (PE)

The initial sample was reduced to 91 respondents (see Table 3 below).

| Conditions | Ease of recall | Difficulty of recall | Difficulty of recall with attribution |
|------------|----------------|----------------------|---------------------------------------|
| Sample | 30 | 29 | 32 |

Table 3 : Distribution of Respondents in the Final Sample (PE)

1.8.3. Description of Final Sample

The total sample consisted of 91 respondents. Table 4 below describes the characteristics of the sample by gender, age, educational level and familiar salary. The total sample is composed by an average of 16.5% of women and 83.5% of men with 61.5% belonging to the age group 25 years or less and 34.1% to the age group 26 and 35 years old. Thus, 79.1% of individuals are university students and 17.6% have a post graduate degree. Familiar salary of individuals is equally shared in 26.4% (1000-2000 s), 35.2% (2000-4000 s) and 32.9% (more of 4000 s).

| Socio-Demographic Variables | Characteristics | Easy recall | | Difficult recall | | Difficult recall – attribution | | Total | |
|------------------------------------|------------------------|--------------------|-------------|-------------------------|-------------|---------------------------------------|-------------|--------------|-------------|
| Gender | Female | 6 | 20% | 4 | 13.79% | 5 | 15.6% | 15 | 16.5% |
| | Male | 24 | 80% | 25 | 86.21% | 27 | 84.4% | 76 | 83.5% |
| | Total | 30 | 100% | 29 | 100% | 32 | 100% | 91 | 100% |
| Age | Less than 25 | 16 | 53.3% | 20 | 69% | 20 | 62.5% | 56 | 61.5% |
| | 26-35 | 12 | 40% | 8 | 27.6% | 11 | 34.4% | 31 | 34.1% |
| | 36-45 | 1 | 3.3% | 0 | 0% | 0 | 0% | 1 | 1.1% |
| | 46-55 | 1 | 3.3% | 0 | 0% | 1 | 3.1% | 2 | 2.2% |
| | More than 55 | 0 | 0% | 1 | 3.4% | 0 | 0% | 1 | 1.1% |
| | Total | 30 | 100% | 29 | 100% | 32 | 100% | 91 | 100% |
| Education | High School & below | 0 | 0% | 0 | 0% | 2 | 6.3% | 2 | 2.2% |
| | Institute | 1 | 3.3% | 0 | 0% | 0 | 0% | 1 | 1.1% |
| | University | 24 | 80% | 22 | 75.9% | 26 | 81.3% | 72 | 79.1% |
| | Graduate & above | 5 | 16.7% | 7 | 24.1% | 4 | 12.4% | 16 | 17.6% |
| | Total | 30 | 100% | 29 | 100% | 32 | 100% | 91 | 100% |
| Domestic Income | Less than 1000 s | 3 | 10% | 1 | 3.4% | 1 | 3.1% | 5 | 5.5% |
| | 1000–2000 s | 7 | 23.3% | 8 | 27.6% | 9 | 28.1% | 24 | 26.4% |
| | 2000–4000 s | 11 | 36.7% | 6 | 20.7% | 15 | 46.9% | 32 | 35.2% |
| | More than 4000 s | 9 | 30% | 14 | 48.3% | 7 | 21.9% | 30 | 32.9% |
| | Total | 30 | 100% | 29 | 100% | 32 | 100% | 91 | 100% |

Table 4 : Sample Demographic Characteristics (PE)

1.9. Data Collection Procedure

We used the experimental method with the administration of three surveys to three groups (easy recall, difficult recall, and difficult recall with attribution). The methodological choices on the mode of data collection, sampling and questionnaire development and collection development are specified below.

1.9.1. Data Collection Mode

In this research, we chose the method of research on the web. The administration of surveys was done using the Sphinx software online. Our choice is justified by the following two reasons:

- The visit of the survey before is simpler and easier to access only including the link to the site. Other administration modes of surveys such as the telephone mode, the face-to-face mode or the postal method were not used.
- The Sphinx Online software can contact respondents through their email addresses or by direct transference of a link. Automated recovery function reduces the rate of non-response, which can prevent mortality effect during the experiment. This software also offers the ability to have a computerized and detailed database indicating the date and exact time the administration of the questionnaire for each respondent. In addition, we have not had to deal with missing data thanks to the mandatory entry for all answers.

1.9.2. Sampling and Respondent Selection

1.9.2.1. Sampling

This study was conducted in Peru. Our sample was composed of the groups of university students (easy recall versus difficult recall versus difficult recall with attribution). There are different sampling methods distinguished by random or probabilistic methods and empirical methods. Random methods consist in randomly selecting respondents from a suitable population whereas empirical methods are based on the simple choice of the researcher. We considered it appropriate to choose a group of university students because our research emphasis is on basic psychological processes independent of sample characteristics (Lucas, 2003).

1.9.2.2. The Selection of Participants

We selected participants from the Engineering University in Lima-Peru because the easy accessibility. For this, we resorted to the most famous social networking site Facebook. We launched the survey in the group “FIIS UNI” with 2770 members so far. We sent a message to all members of this group to invite them to participate in our survey. A second

launch was realized some hours after in a personal page on Facebook. We ask individuals to choose one of three links published on internet. Each link corresponds to a different survey.

1.9.3. Elaboration of the Survey

The survey was developed by Sphinx Online. It aims to collect information using measurement instruments built differently. The surveys include three parts. The presentation of non alcoholic drinks, the manipulation of conditions, and the questions about desire are asked in the first part. The second part consists in questions on the manipulation check and control variables and finally the third part on socio-demographic variables. We also introduced a set of instructions at the beginning of the survey to present the framework of the investigation and briefly thank respondents for their participation and ensure the confidentiality of their responses to encourage them to respond spontaneously and honestly. The survey is identical for all experimental groups.

The survey was pre-tested with a sample of 10 individuals, principally students from the same University. The pre-test phase verified that the survey was well structured and understandable. However, certain ambiguities were noted on the instruments of measure. This has led us to better clarify and reformulate these issues. The final survey is presented in Appendix 1. Once the pre-testing and validation of the survey were completed, we inserted the link on the three experimental sites. We now turn to the phase of data collection.

1.9.4. Data Collection Procedures

The distribution of the survey and data collection took place on November 17th and 18th 2014. We launched a message in the group “FIIS UNI” on Facebook:

“Alma Mater help!

As part of my PhD, I’m conducting a survey.

I hope you can help me by filling out one of these surveys:

<https://sphinxdeclic.com/d/s/jolfpw> : corresponds to the first experimental scenario

<https://sphinxdeclic.com/d/s/quvoym> : corresponds to the second experimental scenario

<https://sphinxdeclic.com/d/s/rflocq> : corresponds to the third experimental scenario

Thank you infinitely!”

A second launch was realized some hours later on a personal page on Facebook with almost the same message:

People of Peru support please !!

As part of my PhD, I’m conducting a survey. I hope you can help me by filling out one of these surveys:

<https://sphinxdeclic.com/d/s/jolfpw> : corresponds to the first experimental scenario

<https://sphinxdeclic.com/d/s/quvoym> : corresponds to the second experimental scenario

<https://sphinxdeclic.com/d/s/rflocq> : corresponds to the third experimental scenario

Thank you infinitely!

The data collection lasted two days in order to have 50 respondents for each experimental group.

1.10. Validation of the Reliability of Scales and Manipulation Check

1.10.1 Difficulty of Recall’s Scale

Given that the scale is stable and refers to an unidimensional construct, we validated the scale with a factorial analysis. Firstly, we present the descriptive statistics of the scale and then we analyze the normality of the variable. According to the Table 5, the quasi normality is verified because the skewness and the kurtosis are between -1.5 and 1.5. Likewise, the mean and the standard deviation of the three items have similar values.

| | Mean | Std. Deviation | Skewness | | Kurtosis | |
|--|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| The recall task was difficult | 3.03 | 1.712 | .394 | .311 | -.868 | .613 |
| The recall task took you a lot of effort | 3.14 | 1.676 | .324 | .311 | -1.001 | .613 |
| The recall task made you think a lot | 3.03 | 1.752 | .345 | .311 | -1.222 | .613 |

Table 5 : Descriptive Statistics (PE)

The variances inflation factor (VIF) and Tolerance help to identify multicollinearity in variables. Our VIF's values less than 10 and Tolerances more than 0.1 mean that no collinearity is commonly accepted (Hair et al., 1998). The values of VIF are calculated and presented in Table 6.

| Model | Collinearity Statistics | |
|---|-------------------------|-------|
| | Tolerance | VIF |
| The recall task was difficult | .354 | 2.829 |
| The recall task took you a lot a effort | .280 | 3.572 |
| The recall task made you think a lot | .434 | 2.307 |

Table 6 : Multicollinearity Test (PE)

A factor analysis was conducted on the three items in order to validate the scale. The analysis indicated that the data is factorable (Table 7). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, $KMO = 0.721$. Bartlett's test of sphericity $\chi^2(15)=103.756$, $p\text{-value} < 0.001$, indicated that factorability is significant.

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .721 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 103,756 |
| | Df | 3 |
| | Sig. | .000 |

Table 7 : KMO and Bartlett's Test (PE)

We can also notice that one axis explains 82.336% of the total variance. This allows us to confirm the unidimensionality of the construct.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.470 | 82.336 | 82.336 | 2.470 | 82.336 | 82.336 |
| 2 | .345 | 11.493 | 93.829 | | | |
| 3 | .185 | 6.171 | 100.000 | | | |

Table 8 : Total Explained Variance (PE)

Reliability

The examination of scale reliability is very satisfactory with a Cronbach alpha value of 0.892.

This means the scales consistently reflect the construct “difficulty of recall”.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .892 | 3 |

Table 9 : Reliability Statistics (PE)

Validity

The convergent validity, based on the rho of Fornier and Larcker (1981), equal to $.824 > 0.5$ allow us to verify the validity of the scale. Therefore, we accept the validity and reliability of the scale measuring “difficulty of recall” represent good indicators.

1.10.2. Purchase Intention's Scale

In the same way as for the difficulty of recall's scale, we firstly present the descriptive statistics of the scale and then we analyze the normality of the variable. According to the Table 10, the quasi normality is verified because the skewness and the kurtosis are between -1.5 and 1.5. Likewise, the mean and the standard deviation of the three items have similar values.

| | N | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|-----------|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| How likely would you buy this drink, if you had the opportunity right now | 91 | 5.74 | 2.804 | -.298 | .253 | -.940 | .500 |
| Would you intend to buy this drink, if you had the opportunity right now | 91 | 5.60 | 2.943 | -.296 | .253 | -.936 | .500 |
| Valid N (listwise) | 91 | | | | | | |

Table 10 : Descriptive Statistics (PE)

The variances inflation factor (VIF) and Tolerance help to identify multicollinearity in variables. Our VIF's values less than 10 and Tolerances more than 0.1 mean that no collinearity is commonly accepted. The values of VIF are calculated and presented in Table 11.

| Model | Collinearity Statistics | |
|---|-------------------------|-------|
| | Tolerance | VIF |
| How likely would you buy this drink, if you had the opportunity right now | .377 | 2.655 |
| Would you intend to buy this drink, if you had the opportunity right now | .377 | 2.655 |

Table 11 : Multicollinearity Test (PE)

A factor analysis was conducted on the three items in order to validate the scale. The analysis indicated that the data is factorable (Table 12). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = 0.5. Bartlett's test of sphericity $\chi^2(15)=86.442$, p -value < 0.001, indicated that factorability is relatively significant.

| | | |
|--|--------------------|--------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .500 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 86.422 |
| | Df | 1 |
| | Sig. | .000 |

Table 12 : KMO and Bartlett's Test (PE)

We can also notice that one axis explains 89.477% of the total variance. This allows us to confirm the unidimensionality of the construct.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 1.790 | 89.477 | 89.477 | 1.790 | 89.447 | 89.447 |
| 2 | .210 | 10.523 | 100.000 | | | |

Table 13 : Total Variance Explained (PE)

Reliability

The examination of scale reliability is very satisfactory with a Cronbach alpha value of 0.882.

This means the scales consistently reflect the construct “difficulty of recall”.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .882 | 2 |

Table 14 : Reliability Statistics (PE)

Validity

The convergent validity, based on the rho of Fornell and Larcker (1981), equal to $0.895 > 0.5$ allow us to verify the validity of the scale. Therefore, we accept that the validity and reliability of the scale measuring “difficulty of recall” represents good indicators.

1.10.3. Manipulation Check of the Difficulty of Recall

To investigate whether the difficulty of recall had an influence on desire and the purchase intention, a t-test was conducted to measure the difference between the two levels: easy of recall and difficulty of recall. There was a marginally significant effect between ease of recall ($M = 2.56$; $SD = 1.34$) and difficulty of recall ($M = 3.55$; $SD = 1.56$), $t(57) = 2.59$; $p = .012 < .05$, $\eta^2 = 10.5\%$. Participants with the difficulty-of-recall condition found the task more difficult than participants with the ease-of-recall condition.

1.11. Test of Hypotheses

A planned contrast (-1 +1 0; 0 +1 -1; -1 0 +1) was done to test the difference of desire to consume among conditions (easy-recall, difficult-recall, and difficulty-recall-with-attribution).

The Levene's test showed that there is a homogeneity of variances ($\text{sig.} = .561 > .05$). Results revealed that participants with the difficult-recall condition felt more desire than those of easy-recall condition ($M1 = 3.00$, $SD = 2.91$ versus $M2 = 4.86$, $SD = 3.23$), $t(88) = 2.249$, $p = .027 < .05$, $n^2 = 5.4\%$. This relationship allowed us to validate our hypothesis 1a. In addition, results also revealed that participants with the difficult-recall-with-attribution condition felt less desire than those of difficult-recall-with-attribution conditions ($M2 = 4.86$, $SD = 3.23$ versus $M3 = 3.06$, $SD = 3.32$), $t(88) = 2.208$, $p = .03 < .05$, $n^2 = 5.2\%$, in support of H2a. It demonstrated that the use of inference "it is difficult to recall, so I have not consumed a lot" increases desire and that participants used heuristic information processing.

In the same way, we did a planned contrast to test the difference of purchase intention among conditions. We validated, firstly, the homogeneity of variances through the Levene' test ($\text{sig.} = .518 > .05$). Then, we analyzed the relationship between difficulty of recall and purchase intention. Results revealed that participants conditioned to a task of difficult recall stated more purchase intention than those with an easy-recall condition ($M1 = 5.25$; $SD = 2.51$ versus $M2 = 6.69$; $SD = 2.43$), $t(88) = 2.078$, $p = .04 < .05$, $n^2 = 4.7\%$, in support of H1b

In order to demonstrate that participants used the difficulty inference to induce their purchase intention, we compared two conditions: difficulty-of-recall versus difficulty-of-recall-with-attribution. Results showed that there is a significant difference between the two conditions: $M2 = 6.69$; $SD = 2.43$ vs. $M3 = 5.14$; $SD = 2.96$, $t(88) = 2.275$, $p = .025 < .05$, $n^2 = 5.6\%$, in support of H2b. Thus, we confirmed that participants processed information in a heuristic way. Finally, we regressed the purchase intention on the desire of consumption and we validated this relationship, $\text{beta} = .520$, $t(89) = 5.742$, $p < .05$, $R^2 = 26.2\%$.

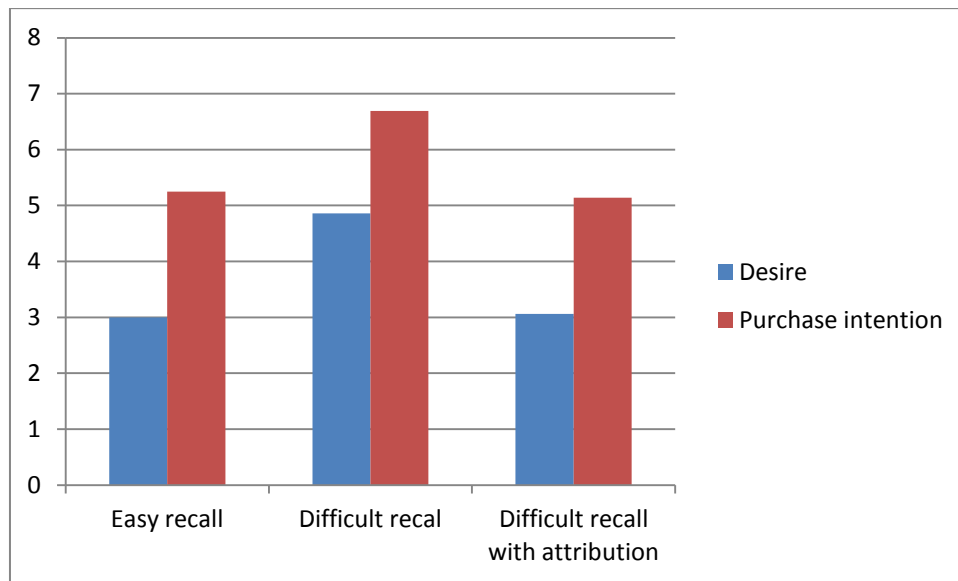


Figure 8 : Desire and Purchase Intention (PE)

1.12. Discussion

This experiment demonstrated that the difficulty of recalling past experiences has a positive effect on desire and purchase intention when consumers recall semantic information. Consumers, based on a heuristic processing, used the difficulty inference “it is difficult to recall, so I have not consumed a lot” (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kahneman, 1973) to feel a deficit and consequently more desire. The results of this experiment are in line with the studies of Redden and Galak (2013). Consumers can also depend on the inferences they make about past consumption. Consumers feel more desire to eat their favorite food when the task of recalling their past consumption is difficult. Likewise, when they are warned that the task of recalling is difficult by itself, participants did not process information in a heuristic way. Results are also in line with other studies such as Menon and Raghurir (2003), in which consumers did not use the difficulty inference when the difficulty in recalling positive brand attributes was expected. However, in the next experiment, we propose that the type of information to be recalled from past consumption can influence the relationship between the difficulty of recall and desire. This means that the

difficulty in recalling semantic information of past consumption will not have the same effect on desire as the difficulty in recalling episodic information.

We propose that emotions and sensations tied to past experiences influence consumers and keep them from using the difficulty inference, consequently not influencing desire. In order to demonstrate this proposition, we did a second experiment with two types of products: hedonic products and leisure activities. We induced individuals to focus on the recall of episodic information of past consumptions for hedonic products (e.g. chips, candy) and for leisure activities (e.g. cinema, karaoke).

Section 2: Second Experiment with Hedonic Products and Leisure Activities

2.1. *Experimental Design*

As for the first experiment, the variable difficulty of recall was manipulated with two levels:

- “Ease of recall”
- “Difficulty of recall”

In addition, we also manipulated the type of products. Two levels are considered in this manipulation:

- “Leisure activities”
- “Hedonic product”

We chose this type of products because they are sources of pleasurable experiences and consequently desirables. As in the first experiment, we asked participants to choose the leisure activity or hedonic product they prefer most and frequently consume. In this sense, four scenarios (2x2) were created. We chose independent measurements; each individual participated in one of the four scenarios. A minimum of 40 respondents per experimental cell were interviewed.

| Scenario | Fluency of recall | Type of Information | Expectation | Time Pressure | Type of product |
|----------|-------------------|---------------------|-------------|---------------|------------------|
| 1 | Ease | Episodic | No | No | Leisure activity |
| 2 | Difficulty | Episodic | No | No | Leisure activity |
| 3 | Ease | Episodic | No | No | Hedonic product |
| 4 | Difficulty | Episodic | No | No | Hedonic product |

Table 15 : Experimental Design (CH)

2.2. *Operationalization and Manipulation of Experimental Parameters*

We manipulated the difficulty of recalling past experiences and the type of products. The manipulation of the difficulty of recall has been explained before. For the case of the types of products, we exchanged drinks for leisure activities in the two first scenarios and we proposed hedonic products in the third and fourth scenario.

2.3. *Description of Experimental Scenarios*

Scenario 1

Six leisure activities such as going to a restaurant, a club, a concert, the theater, the cinema or singing karaoke (Appendix 2) were presented to participants. Hedonic characteristics and repeated consumption were relevant properties in the selection of these activities. We asked participants to carefully recall the last time they did the selected leisure activity. As in experiment 1, the recall of the last time of consumption referred to the level “ease of recall”. However, we didn’t ask participants “when” they realized the leisure activity in order to not refer the recall to semantic information of past experiences. Instead, we asked participants rather to focus on the experience itself by asking them to carefully recall the last time of consumption. We made participants concentrate on episodic information. The manipulation of expected difficulty is absent in all the scenarios of this experiment.

Scenario 2

We presented the same list of leisure activities as in scenario 1. However, in contrast to first scenario, the recall of the last three (3) times of consumption was requested from participants, in order to refer to the “difficulty of recall” level. Episodic information of past experiences was asked from participants in all scenarios of this experiment.

Scenario 3

Chips, candy, chocolate, soda, dried apricots, and nuts are the hedonic products that were presented in this scenario (Appendix 3). As for all the types of product presented in our experiments, hedonic characteristics and repeated consumption were important reasons to select these products. The relevant difference in this scenario is the new type of product; in previous scenarios we used soft drinks and leisure activities. As in scenario 1, we asked participants to carefully recall the last time they consumed the selected hedonic products. The “recall carefully” refers to episodic information and “the last time” to the “ease of recall” level.

Scenario 4

The same list of hedonic products as in scenario 3 was presented to participants. Participants were asked to recall the last three (3) times they consumed the selected hedonic product in the same way as in scenario 2.

2.4. *Manipulation Check*

We realized the manipulation check for the variable difficulty of recall just as in the first experiment.

2.5. *Criteria for Internal Validity of the Experiment*

Control variables as frequency and preference were also measured in this experiment. For the four experimental groups, we controlled the socio demographic variables. As in the first experiment, we decided to retain respondents with a consumption frequency of three times or more per month for hedonic products; however, for leisure activities, we decided retain respondents with a frequency of consumption of two or more times per month because in general leisure activities as restaurant, cinema or karaoke are consumed with less frequency

than hedonic products as chips, candies or pizza. Moreover, as in the first experiment, we retained consumers with a preference superior or equal to 5 for leisure activities and hedonic products. . The internal validity of the experiment can also be affected in other ways.

2.6. *Criteria for the External Validity of the Experiment*

In accordance with our first experiment, we broadened the external validity of the difficulty of recall.

2.7. *Measurement Instrument*

We used the same scale as in the first experiment.

2.8. *Presentation of Samples and Preliminary Analysis of Data*

We first describe the initial sample, then the purification steps of the sample. Finally, we present the final sample and its socio-demographic characteristics.

2.8.1. Initial Sample

In December 2014, 198 surveys were completed on four experimental sites in China. Table 16 below shows the initial distribution of respondents in three experimental cells. Initially, each cell was composed of at least 48 observations.

| Conditions | Ease of recall and leisure | Difficulty of recall and leisure | Ease of recall and products | Difficulty of recall and products |
|------------|----------------------------|----------------------------------|-----------------------------|-----------------------------------|
| Sample | 50 | 50 | 50 | 48 |

Table 16 : Distribution of Respondent in the Initial Sample (CH)

We performed the analysis of outliers and analyzed the box plot of variables and calculated the Mahalanobis's distance. Concerning the data collected on the web site, no extreme values were found.

2.8.2. Purification of Data

We purified data by controlling variables as frequency of consumption and preference for product. These variables were measured as indicated in Section 1.5.1. Because the frequency of consumption of leisure activities is not controlled in the same way as hedonic products, we analyzed the two separately.

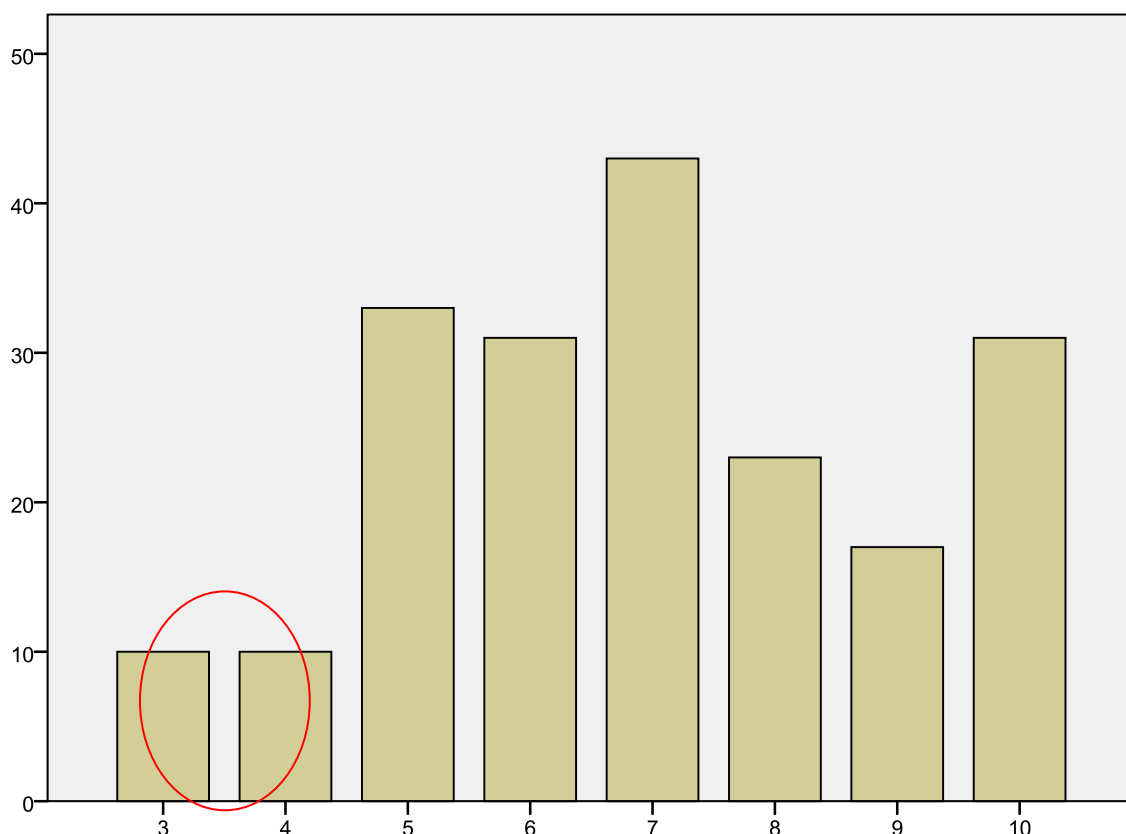


Figure 9 : Preference for Hedonic Products and Leisure Activities (CH)

We decided to retain only respondents with a frequency of consumption superior to 2 per month for hedonic products and 1 per month for leisure activities. For the case of preference, we retained participants with a preference superior to 4 for hedonic product and leisure activities as the first experiment. We carried out the purification of the initial sample based on these two control variables.

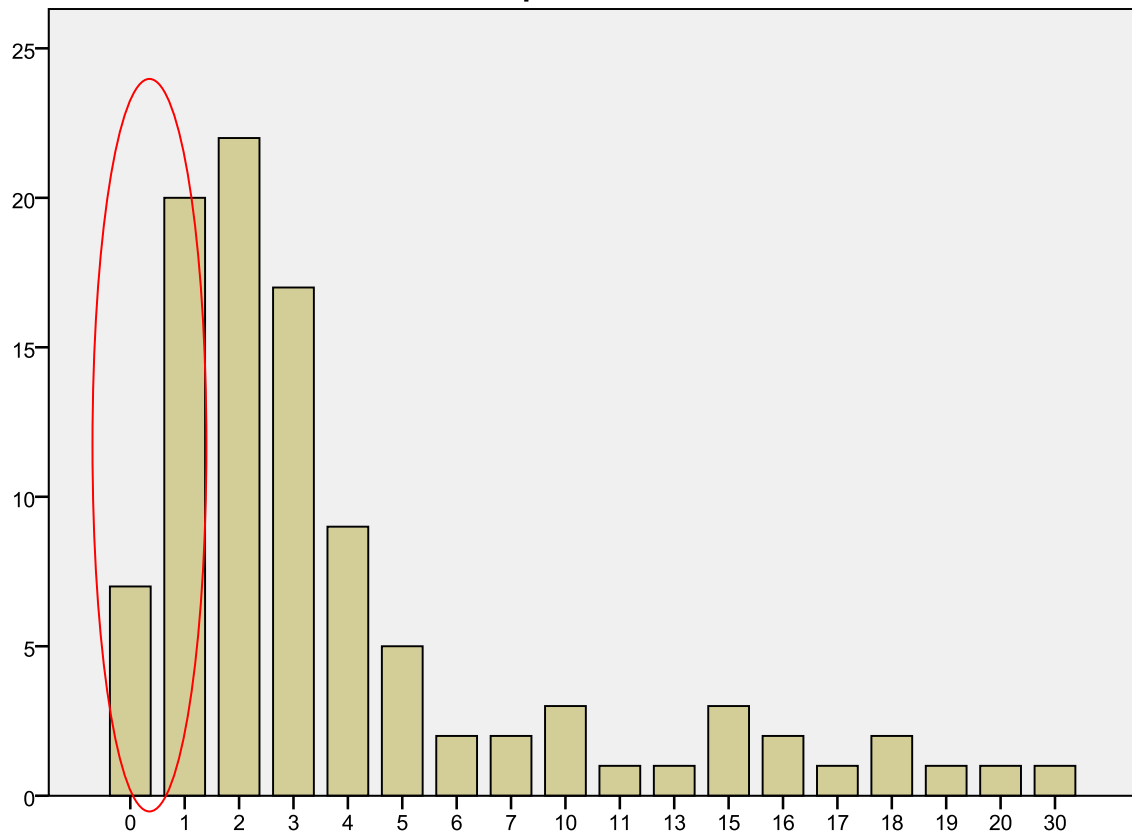


Figure 10 : Frequency of Hedonic Products (CH)

Control of the frequency of consumption revealed that there were 34 respondents who consumed 2 or less of the select hedonic product and 27 respondents who experienced 1 or less of the selected leisure activity. Thus, control of preference revealed that 20 respondents had a low preference for hedonic products and leisure activities, 10 of which were already included in the control of the frequency. In this sense, we eliminated 71 respondents in total.

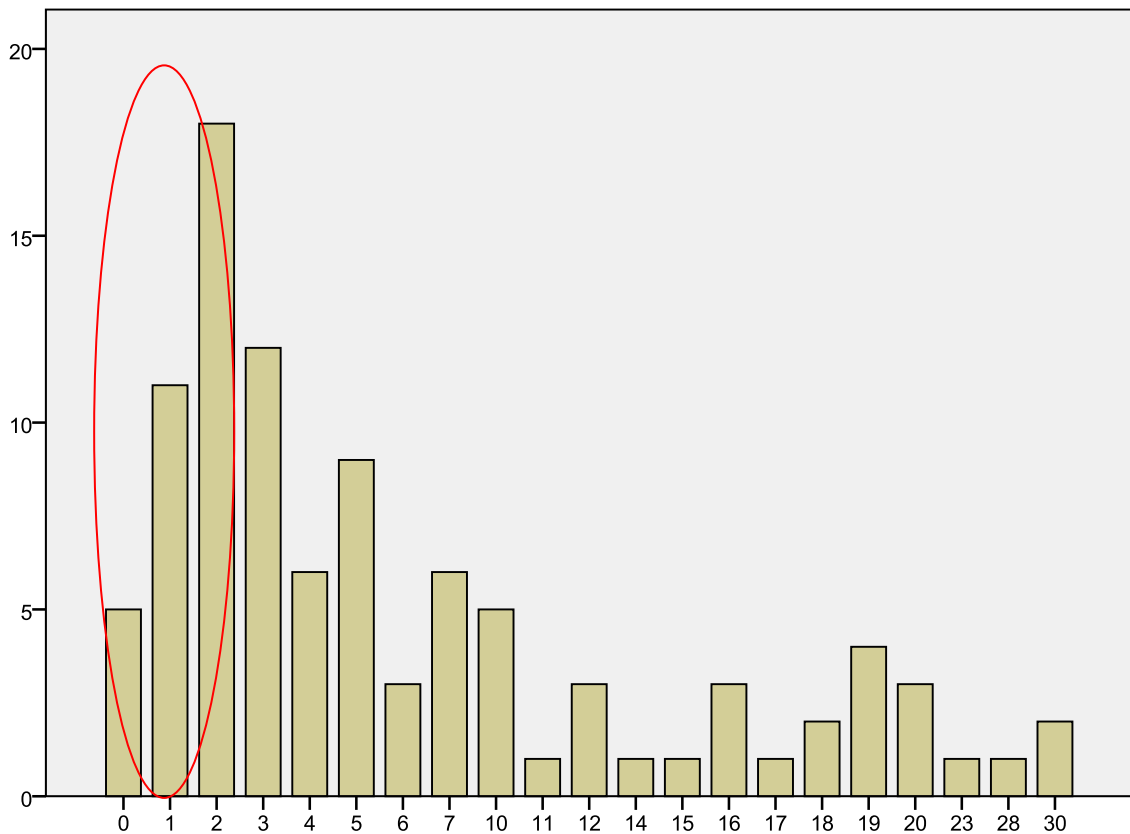


Figure 11 : Frequency of Leisure Activities (CH)

The initial sample was reduced to 127 respondents (see Table 17 below).

| Conditions | Ease of recall and leisure | Difficulty of recall and leisure | Ease of recall and products | Difficulty of recall and products |
|------------|----------------------------|----------------------------------|-----------------------------|-----------------------------------|
| Sample | 33 | 36 | 29 | 29 |

Table 17 : Distribution of Respondents in the Final Sample (CH)

2.8.3. Description of Final Sample

The total sample consists of 127 respondents. Table 18 below describes the characteristics of the sample by gender, age, education and domestic income. The total sample is composed by an average of 65% of women and 35% of men with 49.6% belonging to the age group “less than 25 years” and 48% to the age group 26 and 35 years old. Thus, 74.8% of individuals are university student and 15.7% have a post graduate degree. Household salary is 41.7% (Less than 1000 y), 35.4% (1000-2000 y), 14.2% (2000-4000 y) and 8.7% (more than 4000 y).

| Socio-Demographic Variables | Characteristic | Easy recall – leisure | | Difficult recall – leisure | | Easy recall - product | | Difficult recall - product | | Total | |
|------------------------------------|-----------------------|------------------------------|-------------|-----------------------------------|-------------|------------------------------|-------------|-----------------------------------|-------------|--------------|-------------|
| Gender | Female | 24 | 72.7% | 21 | 58.3% | 20 | 68.9% | 17 | 58.6% | 82 | 64.6% |
| | Male | 9 | 27.3% | 15 | 41.7% | 9 | 31.1% | 12 | 41.4% | 45 | 35.4% |
| | Total | 33 | 100% | 36 | 100% | 29 | 100% | 29 | 100% | 127 | 100% |
| Age | Less than 25 | 14 | 42.4% | 17 | 47.2% | 20 | 68.9% | 12 | 41.4% | 63 | 49.6% |
| | 26-35 | 17 | 51.5% | 19 | 52.8% | 9 | 31.1% | 16 | 55.2% | 61 | 48% |
| | 36-45 | 2 | 6% | 0 | 0% | 0 | 0% | 1 | 3.4% | 3 | 2.4% |
| | 46-55 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | More than 55 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | Total | 33 | 100% | 36 | 100% | 29 | 100% | 29 | 100% | 127 | 100% |
| Education ¹ | High School | 4 | 12.1% | 0 | 0% | 0 | 0% | 0 | 0% | 4 | 3.2% |
| | Institute | 23 | 69.7% | 27 | 75% | 23 | 79.3% | 22 | 75.9% | 95 | 74.8% |
| | University | 4 | 12.1% | 9 | 25% | 4 | 13.8% | 3 | 10.3% | 20 | 15.7% |
| | Graduate | 2 | 6.1% | 0 | 0% | 2 | 6.9% | 4 | 13.8% | 8 | 6.3% |
| | Total | 33 | 100% | 36 | 100% | 29 | 100% | 29 | 100% | 127 | 100% |
| Domestic Income | Less than 1000y | 18 | 54.5% | 12 | 33.3% | 12 | 41.4% | 11 | 38% | 53 | 41.7% |
| | 1000–2000y | 7 | 24.1% | 17 | 47.2% | 12 | 41.4% | 9 | 31.1% | 45 | 35.4% |
| | 2000–4000y | 6 | 18.2% | 3 | 9.4% | 3 | 10.3% | 6 | 20.6% | 18 | 14.2% |
| | More than 4000y | 2 | 6% | 4 | 11.1% | 2 | 6.9% | 3 | 10.3% | 11 | 8.7% |
| | Total | 33 | 100% | 36 | 100% | 29 | 100% | 29 | 100% | 127 | 100% |

Table 18 : Sample Demographic Characteristics (CH)

2.9. Data Collection Procedure

We used the experimental method with the administration of surveys for four groups (easy recall for hedonic products, difficult recall for hedonic products, easy recall for leisure activities and difficult recall for leisure activities). The methodological choices on the mode of data collection, sampling and questionnaire development and collection development are specified below.

This study was conducted in China with the help of a lecturer from the Beijing Business School. Master students from the Beijing Business School completed the surveys after being contacted through email. The survey lasted two weeks.

¹ High School = Baccalaureat, Institute = Bac 2/3, University = Bac4/5, Graduate = Doctorat

As in experiment 1, the on line questionnaire was developed on Sphinx Online Version. It aims at collecting information using measurement instruments built differently. The surveys consisted of three parts. The presentation of six hedonic products or leisure activities, the manipulation of conditions, and the questions about desire were asked in the first part. The second part consisted in questions linked to the manipulation check and finally the third part dealt with socio-demographic variables. We also presented the framework of the investigation briefly, thanked respondents for their participation, and ensured confidentiality of their responses to encourage them to respond spontaneously and honestly.

The survey was translated by a professor of marketing in China. The structure and the understanding of the surveys' content were verified by the professor. Once the translation was ended, surveys were sent to students. They were asked to choose a link. The data collection lasted two weeks.

2.10. Validation of the Reliability of Scales and Manipulation Check

2.10.1. Difficulty of Recall Scale

Given that the scale is stable and refers to a unidimensional construct; we validated the scale with a factorial analysis. Firstly, we present the descriptive statistics of the scale and we analyze the normality of the variable. According to the Table 19, the quasi normality is verified because the skewness and the kurtosis are between -1.5 and 1.5. Likewise, the mean and the standard deviation of the three items have similar values.

| | Mean | Std. Deviation | Skewness | | Kurtosis | |
|--|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| The recall task was difficult | 2.69 | 1.725 | .883 | .215 | -.276 | .427 |
| The recall task took you a lot of effort | 2.82 | 1.664 | .776 | .215 | -.435 | .427 |
| The recall task made you think a lot | 2.79 | 1.721 | .905 | .215 | -.276 | .427 |

Table 19 : Descriptive Statistics (CH)

The variances inflation factor (VIF) and Tolerance help to identify multicollinearity in variables. Our VIF's values less than 10 and Tolerances more than 0.1 mean that no collinearity is commonly accepted. The values of VIF were calculated and presented in Table 20.

| Model | Collinearity Statistics | |
|---|-------------------------|--------|
| | Tolerance | VIF |
| The recall task was difficult | .127 | 7.884 |
| The recall task took you a lot a effort | .099 | 10.083 |
| The recall task made you think a lot | .101 | 9.865 |

Table 20 : Multicollinearity Test (CH)

A factor analysis was conducted on the three items in order to validate the scale. The analysis indicated that the data is factorable (Table 21). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = 0.784. Bartlett's test of sphericity $\chi^2(3)=517.573$, p -value < 0.001, indicated that factorability is significant.

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .784 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 517.573 |
| | df | 3 |
| | Sig. | .000 |

Table 21 : KMO and Bartlett's Test (CH)

We can also notice that one axis explains 95.027% of the total variance. This allows us to confirm the unidimensionality of the construct.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.851 | 95.027 | 95.027 | 2.821 | 95.027 | 95.027 |
| 2 | .086 | 2.875 | 97.902 | | | |
| 3 | .063 | 2.098 | 100.000 | | | |

Table 22 : Total Explained Variance (CH)

Reliability

The examination of scale reliability is very satisfactory with a Cronbach's alpha value of 0.974. This means the scales consistently reflect the construct “difficulty of recall”.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .974 | 3 |

Table 23 : Reliability Statistics (CH)

Validity

The convergent validity, based on the rho of Fornier and Larcker (1981), equal to 0.951 (> 0.5) verifies the validity of the scale. Therefore, validity and reliability of the scale measuring “difficulty of recall” represent good indicators.

2.10.2. Purchase Intention Scale

We first present the descriptive statistics of the scale and then analyze normality. According to Table 24, the quasi normality is verified because the skewness and the kurtosis are between -1.5 and 1.5. Likewise, the mean and the standard deviation of the two items have similar values.

| | N | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|-----------|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| How likely would you buy this drink, if you had the opportunity right now | 127 | 7.25 | 2.335 | -1.087 | .215 | .966 | .427 |
| Would you intend to buy this drink, if you had the opportunity right now | 127 | 7.12 | 2.433 | -.955 | .215 | .480 | .427 |
| Valid N (listwise) | 127 | | | | | | |

Table 24 : Descriptive Statistics (CH)

The variances inflation factor (VIF) and Tolerance help to identify multicollinearity in variables. Our VIF's values less than 10 and Tolerances more than 0.1 mean that no collinearity is commonly accepted. The values of VIF were calculated and presented in Table 25.

| Model | Collinearity Statistics | |
|---|-------------------------|-------|
| | Tolerance | VIF |
| How likely would you buy this drink, if you had the opportunity right now | .242 | 4.125 |
| Would you intend to buy this drink, if you had the opportunity right now | .242 | 4.125 |

Table 25 : Multicollinearity Test (CH)

A factor analysis was conducted on the three items in order to validate the scale. The analysis indicated that the data is factorable (Table 26). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = 0.5. Bartlett's test of sphericity $\chi^2(15)=176.439$, p -value < 0.001, indicated that factorability is relatively significant.

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .500 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 176.439 |
| | Df | 1 |
| | Sig. | .000 |

Table 26 : KMO and Bartlett's Test (CH)

One axis explains 93.520% of the total variance which allows us to confirm the unidimensionality of the construct.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 1.870 | 93.520 | 93.520 | 1.870 | 93.520 | 93.520 |
| 2 | .130 | 6.480 | 100.000 | | | |

Table 27 : Total Explained Variance (CH)

Reliability

The examination of scale reliability is satisfactory with a Cronbach's alpha value of 0.930.

This means the scales consistently reflect the construct “difficulty of recall”.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .930 | 2 |

Table 28 : Reliability Statistics (CH)

Validity

The convergent validity, based on the rho of Fornier and Larcker (1981), equal to 0.935 (> 0.5) verifies the validity of the scale. Therefore, validity and reliability of the scale measuring “difficulty of recall” are established.

2.10.3. Manipulation Check of Difficulty of Recall

To investigate whether the difficulty of recall has an influence on the desire and the purchase intention, a t-test was conducted to measure the difference between the two levels: easy of recall and difficulty of recall for hedonic products and leisure activities.

There is a significant effect between the ease of recall ($M = 2.09$; $SD = 1.36$) and the difficulty of recall ($M = 3.27$; $SD = 1.69$), $t(67) = 3.188$; $p = 0.002 < .05$ for leisure activities; and the ease of recall ($M = 2.15$; $SD = 1.27$) and the difficulty of recall ($M = 3.32$; $SD = 1.89$), $t(56) = 2.767$; $p = .008 < .05$ for hedonic products.

When we analyze the difference between the two conditions for the whole sample, we obtain that there is a significant effect between the ease of recall ($M = 2.11$; $SD = 1.31$) and the difficulty of recall ($M = 3.29$; $SD = 1.76$), $t(125) = 4.25$; $p = .000 < .05$. Participants with the

“difficulty of recall” condition found the task more difficult than participants with the “ease of recall” condition.

2.11. Test of Hypotheses

To validate the hypothesis about the absence of effect of the difficulty in recalling past consumption on desire and purchase intention when consumers recall episodic information, we used a planned comparison (+1 -1 0 0) for leisure activities and (0 0 +1 -1) for hedonic products. Results revealed that the desire was similar in the recall of the last experiences ($M1 = 7.30$, $SD = 2.58$) and the recall of the three last experience ($M2 = 6.44$, $SD = 2.25$) for leisure activities: $t(123) = 1.483$, $p = .141 > .05$, $n^2 = 1.8\%$ in support of H3a. Contrary to our expectation, the desire felt by those who recalled the last experiences ($M3 = 7.62$, $SD = 2.08$) was higher than those who recalled three last experiences ($M4 = 6.24$, $SD = 2.69$) for hedonic products: $t(123) = 2.186$, $p = .031 < .05$, 3.7% in no support of H3a.

For leisure activities, the purchase intention was similar, both when the recall task was difficult and as well as when it was easy ($M1 = 7.54$, $SD = 2.48$; $M2 = 6.77$, $SD = 2.12$), $t(123) = 1.407$, $p = .162 > .05$, $n^2 = 1.6\%$, in support of H3b; and different for hedonic products ($M3 = 8.22$, $SD = 1.90$; $M4 = 6.97$, $SD = 2.49$), $t(123) = 2.117$, $p = .036 < .05$, $n^2 = 3.5\%$, in no support of H3b. Finally, we regressed the purchase intention on the desire of consumption and we validated this relationship, $\beta = .748$, $t(89) = 10.943$, $p < .05$, R^2 adjusted = 55.6% for leisure activities and, $\beta = .766$, $t(89) = 11.294$, $p < .05$, R^2 adjusted = 58.2% for hedonic products.

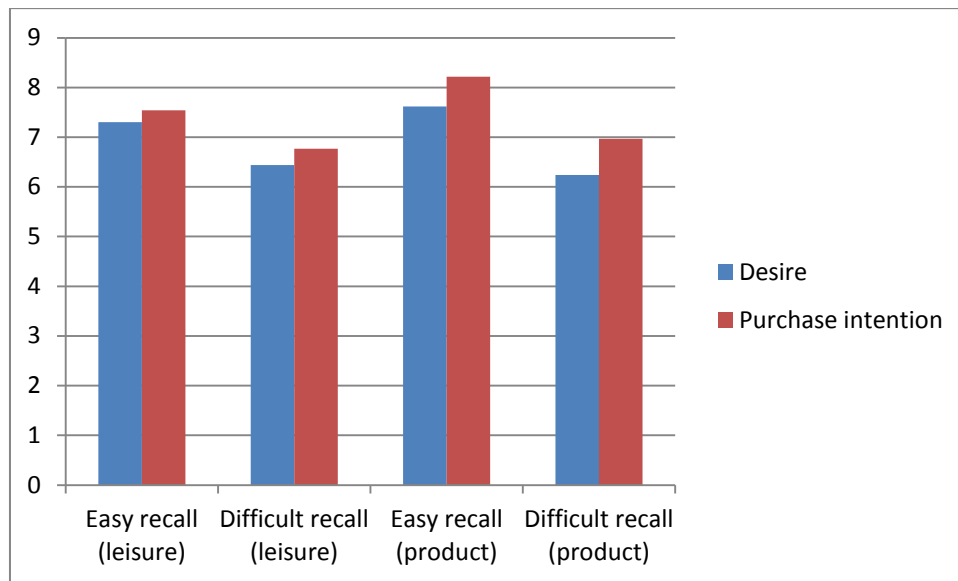


Figure 12 : Desire and Purchase Intention (CH)

2.12. Discussion

As proposed, the absence of effect of the difficulty of recall of past consumptions on desire and purchase intention is demonstrated for leisure activities. Based on systematic processing, in opposition to the first experiment, consumers are not influenced by the difficulty inference “*it is difficult to recall, so I have not consumed a lot*” (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kahneman, 1973). Consumers do not feel a deficit, but are rather influenced by emotions and sensations related to past experiences. The systematic processing of episodic information keeps consumers from being influenced by inferences.

The first and second experiments demonstrate that the influence of difficulty of recall on desire and purchase intention also depends on the type of information to be processed. As figure 5 shows, when consumers systematically process episodic information, the desire to consume is influenced by the simulation of past rewarding experiences. However, when consumers heuristically process semantic information, the desire to consume and the purchase intention are influenced by the feeling of deficit.

Contrary to our expectation, for hedonic products, the difficulty in recalling past consumption of a preferred product had a negative effect on the desire to consume that product and the purchase intention. This result will be further explained in the general discussion.

In the third experiment, we analyze how the processing of episodic information is influenced by external conditions such as time pressure, which induces consumer to use a heuristic information processing. In this sense, we analyze how the difficulty of recall of past consumptions impacts desire and purchase intentions when consumers are asked to recall episodic information while under time pressure.

Section 3: Third Experiment with Non-alcoholic Drinks

3.1. *Experimental Design*

We manipulate the variable difficulty of recall on two levels:

- “Ease of recall”,
- “Difficulty of recall”,

and the variable time pressure:

- “No time pressure”,
- “Under time pressure”.

Four scenarios are created. We also chose independent measurements, and each respondent participated in one of the four scenarios and constituted one observation. A minimum of 30 respondents per experimental cell were interviewed.

| Scenario | Fluency of recall | Type Information | Expectation | Time Pressure | Type of product |
|----------|-------------------|------------------|-------------|---------------|-----------------|
| 1 | Ease | Episodic | No | No | Drink |
| 2 | Difficulty | Episodic | No | No | Drink |
| 3 | Ease | Episodic | No | Yes | Drink |
| 4 | Difficulty | Episodic | No | Yes | Drink |

Table 29 : Experimental Design (FR)

3.2. *Operationalization and Manipulation of Experimental Parameters*

As postulated previously, we manipulated the difficulty of recalling past experiences and time pressure. For the first variable, we used the same manipulation as for experiments 1 and 2. For time pressure, previous research used the control of time in order to accelerate the filling of surveys. For instance, Dhar and Nowlis (1999) manipulated time pressure by either giving individuals 45 seconds to complete the survey (15 seconds per product category) or by allowing individuals an unlimited amount time to make a decision. They also marked each five-second increment on the board until the 15 seconds were up, and subjects were told there

was no more time. Suri and Monroe (2003) indicated the average time required and showed watches in order to inform participants about the actual time available to perform the task. They also asked subjects to turn over the booklet and begin their task as reminder for the time available to them. At the end of the allocated time, they asked subjects to stop and return the information sheet and the booklet to a facedown position. In our research, we manipulated time by giving 1 minute for the easy recall under time pressure and 1 minute and 15 seconds for the difficult recall under time pressure. Similarly to previous studies, we informed individuals about time left after 30 seconds and 45 seconds had passed. All individuals were asked to turn over the booklet and begin their task and to stop it when they finished.

3.3. *Description of Experimental Scenarios*

Scenarios 1

Similarly to the first experiment, we presented the most popular soft drinks in France to participants, including Coca Cola, Pepsi Cola, Sprite, Fanta, Ice Tea and local brands (Appendix 4). They were chosen because of their hedonic characteristics and their repeated usage rate. Then, we asked participants to recall the last time they consumed the products, referring to the level “ease of recall”, and to do it carefully, referring to episodic information of past consumption experiences. In this scenario, the manipulation of time pressure is absent.

Scenario 2

For all scenarios in this experiment, the list of drinks was presented in the same way. The only difference to scenario 1 is that we asked participants to recall the last three times of consumption in order to refer to “difficulty of recall” level. There is an absence of the manipulation for time pressure as in scenario 1.

Scenario 3

The principal change in this scenario, compared to previously presented ones, is the manipulation of time pressure. The measure of time was indicated to participants in order to make them feel the time pressure. One minute was given for answering the principal questions concerning our study. The list of drinks was presented to participants. Participants were asked to carefully recall the last time they consumed the previously selected drink. As in previous scenarios, the recall of the last time of consumption referred to “ease of recall” level and to do it “carefully” referred to the episodic information of past consumptions experiences.

Scenario 4

The only different thing in this scenario compared to scenario 3 is that we asked participants to recall the last three times of consumption, in order to refer to “difficulty of recall” level. The manipulation of time pressure was presented and we controlled participants to answer questions in one minute and fifteen seconds

3.4. *Manipulation Check of Scenarios*

To ensure that task difficulty differs significantly, we use the same three statements as for the two past experiments. For time pressure, we compare the questionnaire with time pressure to the one without time pressure. Individuals under time pressure are supposed to feel more constraint of time than individuals without. We also indicate the time left to individuals several times in order to infer time pressure.

3.5. *Internal Validity*

As for experiments 1 and 2, the frequency of consumption and the preference for the drink were controlled. We also decided to retain only respondents with frequency higher than 2 and preference higher than 4.

3.6. External Validity

This experiment also has the objective to increase external validity. The data is collected in France.

3.7. Measurement Instruments

We used the same scale as in the first and second experiments.

3.8. Presentation of Samples and Preliminary Analysis of Data

We first describe the initial sample, then the purification steps of the sample. Finally, we present the final sample and socio-demographic characteristics.

3.8.1. Initial Sample

In January and February 2015, 170 surveys were completed on four experimental sites in France. Table 30 shows the initial distribution of respondents in the three experimental cells.

| Conditions | Ease of recall without time | Difficulty of recall without time | Ease of recall under time | Difficulty of recall under time |
|------------|--------------------------------|--------------------------------------|------------------------------|------------------------------------|
| Sample | 45 | 43 | 39 | 43 |

Table 30 : Distribution of Respondent in the Initial Sample (FR)

We performed the analysis of outliers to see if certain observations should be deleted. To examine extreme values, we analyzed the box plot of variables and calculated Mahalanobis's distances.

3.8.2. Purification of Data

We introduced control measures in the questionnaire to ensure homogeneity of the sample for frequency of consumption and preference for a product.

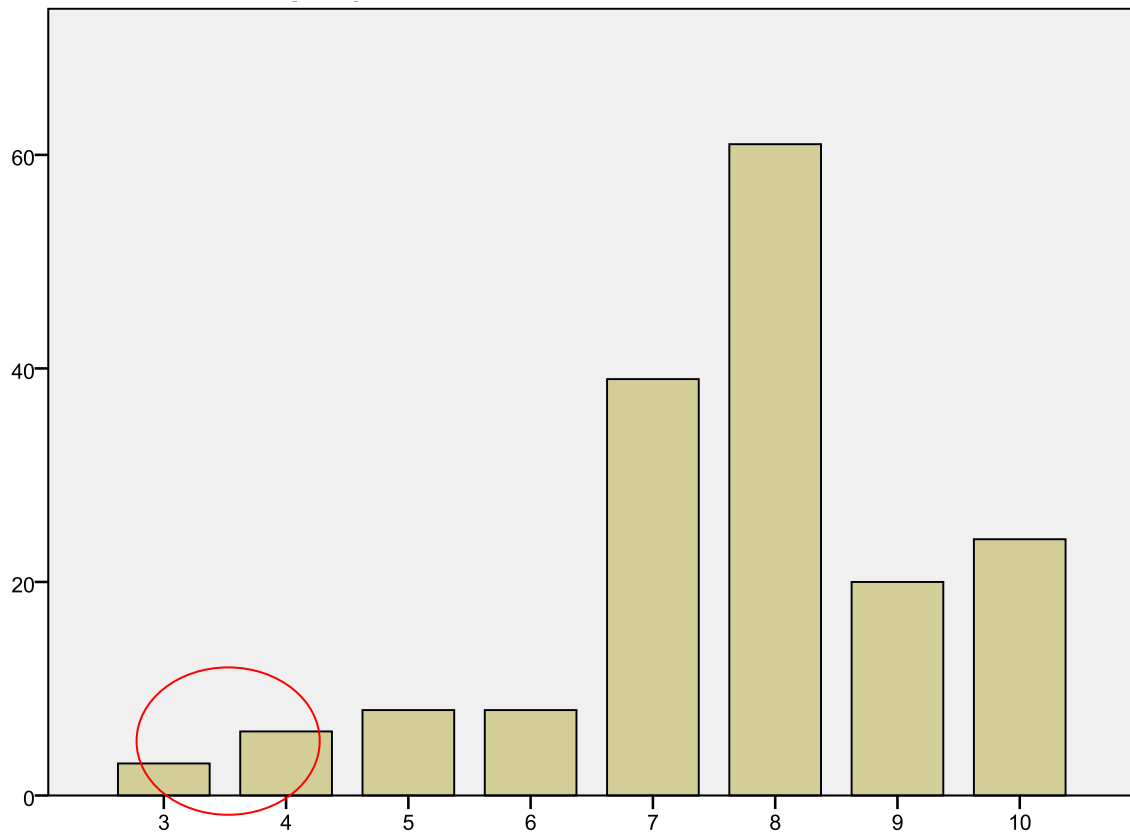


Figure 13 : Preference of Consumption (FR)

We retained respondents with a high frequency of consumption (>2), and a relatively high preference for products (>4). We carried out the purification of the initial sample based on these two control variables.

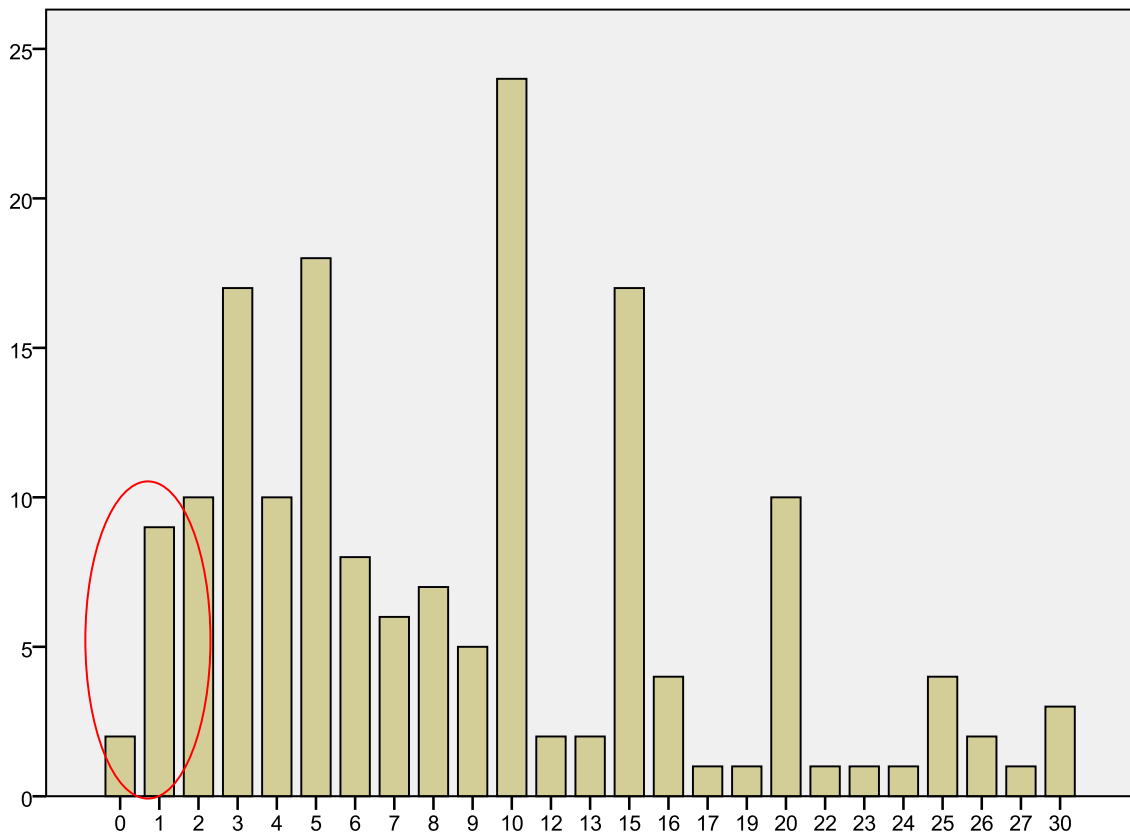


Figure 14 : Frequency of Consumption (FR)

Control of the frequency of consumption revealed that 24 respondents consume 2 products or less per month. In the case of control of preference revealed that 8 respondents have a low preference for drinks (< 5) of which 2 were included in the control of the frequency of consumption. Consequently, we eliminated 31 respondents (including 1 missing value). The initial sample was reduced to 139 respondents (see Table 31 below).

| Conditions | Ease of recall without time | Difficulty of recall without time | Ease of recall under time | Difficulty of recall under time |
|------------|-----------------------------|-----------------------------------|---------------------------|---------------------------------|
| Sample | 37 | 39 | 29 | 34 |

Table 31 : Distribution of Respondents in the Final Sample (FR)

3.8.3. Description of Final Sample

The total sample consisted of 139 respondents. Table 32 below describes the characteristics of the sample by gender, age, education and domestic income. The total sample is composed by an average of 42% of women, with 99.3% belonging to the age group “less than 25 years”. Thus, 70.3% of individuals are students at the Institute and 29.7% belong to the University.

Domestic income of individuals is 27.6% (1000-2000 e), 44.8% (2000-4000 e), and 23.5% (More than 4000 e).

| Socio-demographic Variables | Characteristics | Easy recall | | Difficult recall | | Easy recall – time pressure | | Difficult recall – time pressure | | Total | |
|------------------------------------|------------------------|--------------------|-------------|-------------------------|-------------|------------------------------------|-------------|---|-------------|--------------|-------------|
| Gender | Female | 16 | 43.2% | 23 | 59% | 4 | 13.8% | 16 | 47.1% | 59 | 42.44% |
| | Male | 21 | 56.8% | 16 | 41% | 25 | 86.2% | 18 | 52.9% | 80 | 57.55% |
| | Total | 37 | 100% | 39 | 100% | 29 | 100% | 36 | 100% | 139 | 100% |
| Age | Less than 25 | 36 | 97.3% | 39 | 100% | 29 | 100% | 34 | 100% | 138 | 99.3% |
| | 26-35 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | 36-45 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | 46-55 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | More than 55 | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | Missing value | 1 | 2.7% | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 0.7% |
| | Total | 37 | 100% | 39 | 100% | 31 | 100% | 34 | 100% | 139 | 100% |
| Education | High School | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 2.8% | 0 | 0% |
| | Institute | 25 | 67.6% | 32 | 82.1% | 9 | 31.1% | 31 | 91.2% | 97 | 69.7% |
| | University | 12 | 32.4% | 7 | 17.9% | 20 | 68.9% | 3 | 8.8% | 42 | 30.3% |
| | Graduate | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% | 0 | 0% |
| | Total | 37 | 100% | 39 | 100% | 29 | 100% | 34 | 100% | 139 | 100% |
| Domestic Income | Less than 1000e | 0 | 0% | 0 | 0% | 0 | 0% | 1 | 2.9% | 1 | 0.7% |
| | 1000–2000e | 12 | 32.4% | 9 | 23.1% | 11 | 37.9% | 6 | 17.6% | 38 | 27.3% |
| | 2000–4000 e | 15 | 40.5% | 18 | 46.2% | 10 | 34.5% | 19 | 55.9% | 62 | 44.6% |
| | More than 4000e | 9 | 24.3% | 9 | 23.1% | 8 | 27.6% | 8 | 23.5% | 34 | 24.7% |
| | Missing value | 1 | 2.7% | 3 | 7.6% | 0 | 0% | 0 | 0% | 4 | 2.9% |
| | Total | 37 | 100% | 39 | 100% | 29 | 100% | 34 | 100% | 139 | 100% |

Table 32 : Sample Demographic Characteristics (FR)

3.9. Data Collection Procedures

We use an experimental method with the administration of four surveys:

- Easy recall without time pressure,
- Difficulty recall without time pressure,
- Easy recall under time pressure,
- Difficulty of recall under time pressure.

In this research, we chose a face-to-face method. Unlike the two first experiments, the administration of surveys was done in person. Our choice is justified for the following two reasons:

- To avoid that method biases results, and
- To generalize results without any dependency on method.

This study was conducted in France. The sample was composed of four groups of university students (easy recall without time pressure, difficulty recall without time pressure, easy recall under time pressure, and difficulty recall under time pressure).

We selected respondents from the Aix-Marseille University in Marseille and School of Arts-et-Métiers in Aix-en-Provence, France because the ease of accessibility. We entered the classrooms of the University with the permission of professors and in coordination with the directors. We handed out the printed questionnaires to students and questionnaires were gathered after having been filled out. Instructions were indicated to the students before the beginning of the test.

The printed questionnaires included three parts:

- Presentation of the drinks, manipulation of conditions, and questions about desire, in the first part.
- Questions for the manipulation check in the second part and control variables (frequency and preference),
- And finally socio-demographic variables in the third part.

We also introduced the framework of the investigation, briefly thanked respondents for their participation and ensured confidentiality of responses in order to encourage them to respond

spontaneously and honestly. The questionnaire was identical for all experimental groups. Data collection was realized with the help of professors.

3.10. Scales' Reliability and Manipulation Checks

3.10.1. Difficulty of Recall Scale

Given that the scale is stable and refers to a unidimensional construct; we validate the scale with a factor analysis. We present the descriptive statistics of the scale and analyze the normality of the variable. Quasi normality is verified because the skewness and the kurtosis are between -1.5 and 1.5. Likewise, the mean and the standard deviation of the three items have similar values.

| | Mean | Std. Deviation | Skewness | | Kurtosis | |
|--|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| The recall task was difficult | 5.13 | 3.002 | -.210 | .206 | -.915 | .408 |
| The recall task took you a lot of effort | 4.42 | 2.849 | .001 | .206 | -.896 | .408 |
| The recall task made you to think a lot | 4.23 | 2.977 | .164 | .206 | -.923 | .408 |

Table 33 : Descriptive Statistics (FR)

The variances inflation factor (VIF) and Tolerance help to identify multicollinearity. VIF's values less than 10 and Tolerances more than 0.1 indicate that no collinearity is commonly accepted. The values of VIF are presented in Table 34.

| Model | Collinearity Statistics | |
|---|-------------------------|-------|
| | Tolerance | VIF |
| The recall task was difficult | .256 | 3.900 |
| The recall task took you a lot a effort | .155 | 6.467 |
| The recall task made you think a lot | .159 | 6.276 |

Table 34 : Multicollinearity Test (FR)

A factor analysis conducted on the three items indicates that the data is factorable (Table 35). The Kaiser-Meyer-Olkin measure verifies the sampling adequacy for the analysis, KMO = 0.762. Bartlett's test of sphericity $\chi^2(15)=420.085$, p -value < 0.001, indicates factorability.

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .762 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 420.085 |
| | df | 3 |
| | Sig. | .000 |

Table 35 : KMO and Bartlett's Test (FR)

One axis explains 90.903% of the total variance. This confirms the unidimensionality of the construct.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 2.727 | 90.903 | 90.903 | 2.727 | 90.903 | 90.903 |
| 2 | .179 | 5.983 | 96.886 | | | |
| 3 | .093 | 3.114 | 100.000 | | | |

Table 36 : Total Explained Variance (FR)

Reliability

The examination of scale reliability is satisfactory with a Cronbach's alpha value of 0.949, and scales consistently reflect the construct "difficulty of recall".

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .949 | 3 |

Table 37 : Reliability Statistics (FR)

Validity

The convergent validity, based on the rho of Fornier and Larcker (1981), equal to 0.909 (> 0.5) verifies the validity of the scale. Therefore, validity and reliability of the scale measuring "difficulty of recall" are assessed.

3.10.2. Purchase Intention Scale

In the same way as for the difficulty of recall scale, we firstly present the descriptive statistics of the scale and then analyze the normality of the variable. Quasi normality is verified because the skewness and the kurtosis are between -1.5 and 1.5. Likewise, the mean and the standard deviation of the two items have similar values.

| | N | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|-----------|-----------|----------------|-----------|------------|-----------|------------|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| How likely would you buy this drink, if you had the opportunity right now | 139 | 5.07 | 3.061 | -.089 | .206 | -1.091 | .408 |
| Would you intend to buy this drink, if you had the opportunity right now | 139 | 5.34 | 3.001 | -.209 | .206 | -1.113 | .408 |
| Valid N (listwise) | 139 | | | | | | |

Table 38 : Descriptive Statistics (FR)

The variances inflation factor (VIF) and Tolerance help to identify multicollinearity in variables. VIF's values less than 10 and Tolerances more than 0.1 mean that no collinearity is commonly accepted (Table 39).

| Model | Collinearity Statistics | |
|---|-------------------------|-------|
| | Tolerance | VIF |
| How likely would you buy this drink, if you had the opportunity right now | .272 | 3.672 |
| Would you intend to buy this drink, if you had the opportunity right now | .272 | 3.672 |

Table 39 : Multicollinearity Test (FR)

A factor analysis indicates that the data is factorable (Table 40). The Kaiser-Meyer-Olkin measure verifies the sampling adequacy for the analysis, $KMO = 0.5$. Bartlett's test of sphericity $\chi^2(15)=177.561$, $p\text{-value} < 0.001$, indicates that factorability is significant.

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .500 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 177.561 |
| | Df | 1 |
| | Sig. | .000 |

Table 40 : KMO and Bartlett's Test (FR)

One axis explains 92.652% of the total variance. This confirms the unidimensionality of the construct.

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 1.853 | 92.652 | 92.652 | 1.853 | 92.652 | 92.652 |
| 2 | .147 | 7.348 | 100.000 | | | |

Table 41 : Total Explained Variance (FR)

Reliability

Cronbach alpha value is 0.921, which indicates that the scale consistently reflect the construct “difficulty of recall”.

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .921 | 2 |

Table 42 : Reliability Statistics (FR)

Validity

The convergent validity, based on the rho of Fornier and Larcker (1981), equal to 0.927 (> 0.5) verifies the validity of the scale. Therefore, validity and reliability of the scale measuring “difficulty of recall” are assessed.

3.10.3. Manipulation Check of Difficulty of Recall

To investigate whether the difficulty of recall has an influence on desire and purchase intention, a t-test is conducted to measure the difference between the two levels: easy of recall and difficulty of recall for hedonic products and leisure activities.

There is a significant effect between the ease of recall without time pressure ($M1 = 2.69$; $SD = 2.71$) and the difficulty of recall without time pressure ($M2 = 5.03$; $SD = 2.62$), $t(74) = 3.823$; $p = .00 < .05$, $n^2 = 10.7\%$; and the ease of recall under time pressure ($M3 = 4.88$; $SD = 2.67$) and the difficulty of recall under time pressure ($M4 = 6.43$; $SD = 2.09$), $t(61) = 2.577$; $p = .012 < .05$, $n^2 = 4.1\%$.

When looking at the difference between the two conditions for the whole sample, there is a significant effect between ease of recall ($M = 3.65$; $SD = 2.89$) and difficulty of recall ($M = 5.68$; $SD = 2.47$), $t(137) = 4.455$; $p = .00 < .05$, $n^2 = 12.7\%$. Participants in the “difficulty of recall” condition find the task more difficult than participants in the “ease of recall” condition.

3.11. Hypotheses Testing

To validate the hypothesis about the effect of time pressure on the relationship between the difficulty in recalling past consumptions and desire, we test the equality of means for each condition. The desire for drinks was similar for the recall of the two past experiences ($M1 = 6.19$, $SD = 3.62$) and the recall of the past six experiences ($M2 = 5.67$, $SD = 3.46$) with no time pressure, $t(76) = .643$, $p = .522 > .05$, $n^2 = 0.4\%$, in support of H3a. However, the desire felt by those who recalled two last experiences ($M3 = 5.07$, $SD = 3.40$) was significantly lower than those who recalled six last experiences ($M4 = 7.41$, $SD = 2.57$) under time pressure, $t(65) = 3.109$, $p = .003 < .05$, $n^2 = 5.5\%$.

In the same way, purchase intention was similar under no time pressure, $M1 = 5.17$, $SD = 2.96$ vs. $M2 = 5.02$, $SD = 2.98$; $t(74) = .220$, $p = .827 > .05$, $n^2 = 0\%$, in support of H3b, but different under time pressure ($M3 = 3.72$, $SD = 2.83$ vs. $M4 = 6.34$, $SD = 2.47$; $t(65) = 3.914$, $p = .000 < .05$, $n^2 = 8.9\%$. Finally, we regressed the purchase intention on the desire of consumption and we validated this relationship, $\beta = .726$, $t(89) = 13.448$, $p < .05$, $R^2_{\text{adjusted}} = 52.5\%$

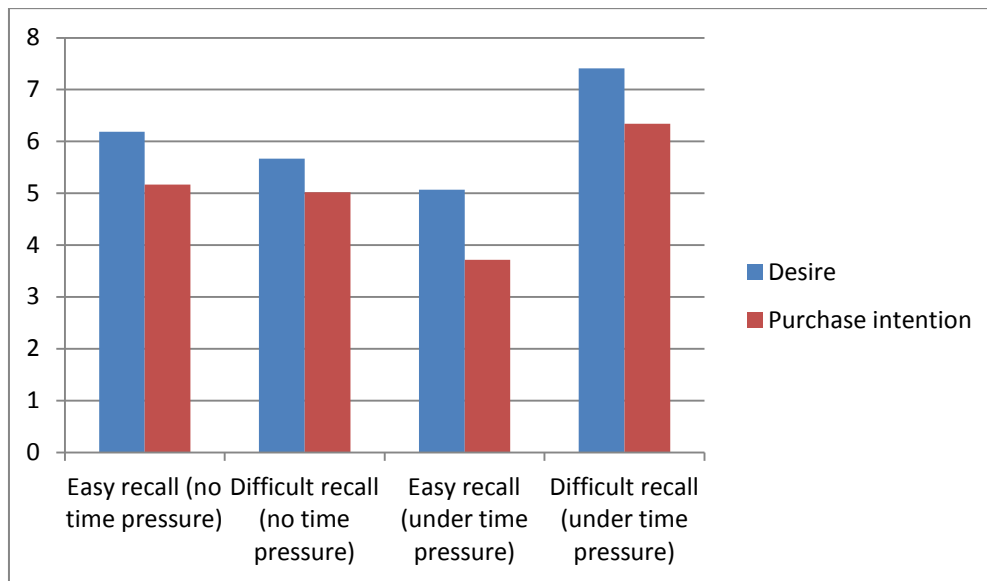


Figure 15 : Desire and Purchase Intention (FR)

To test the interaction effect of time pressure and difficulty of recall on desire to consume, we used a factorial ANOVA. A Levene's test validated the homogeneity of variance ($\text{sig.} > .05$). Results revealed that there was effectively a combined effect between the constraint of time that consumer experienced and the difficulty in recalling past consumption of a preferred product, on the desire to consume that product, $F(1,135) = 6.467$, $p = .012 < .05$, $n^2 = 4.6\%$, in support of H4a. Significant interaction is shown up by the non-parallel lines on the graph of Figure 16. Under time pressure, there is a significant difference of desire level between participants with ease-recall condition and difficulty-recall. In addition, there was a non-significant main effect of difficulty of recall and time pressure on desire, $F(1, 135) = 2.610$, $p = .109 > .05$, $n^2 = 1.9\%$ and $F(1,135) = .308$, $p = .580 > .05$, $n^2 = .2\%$, respectively.

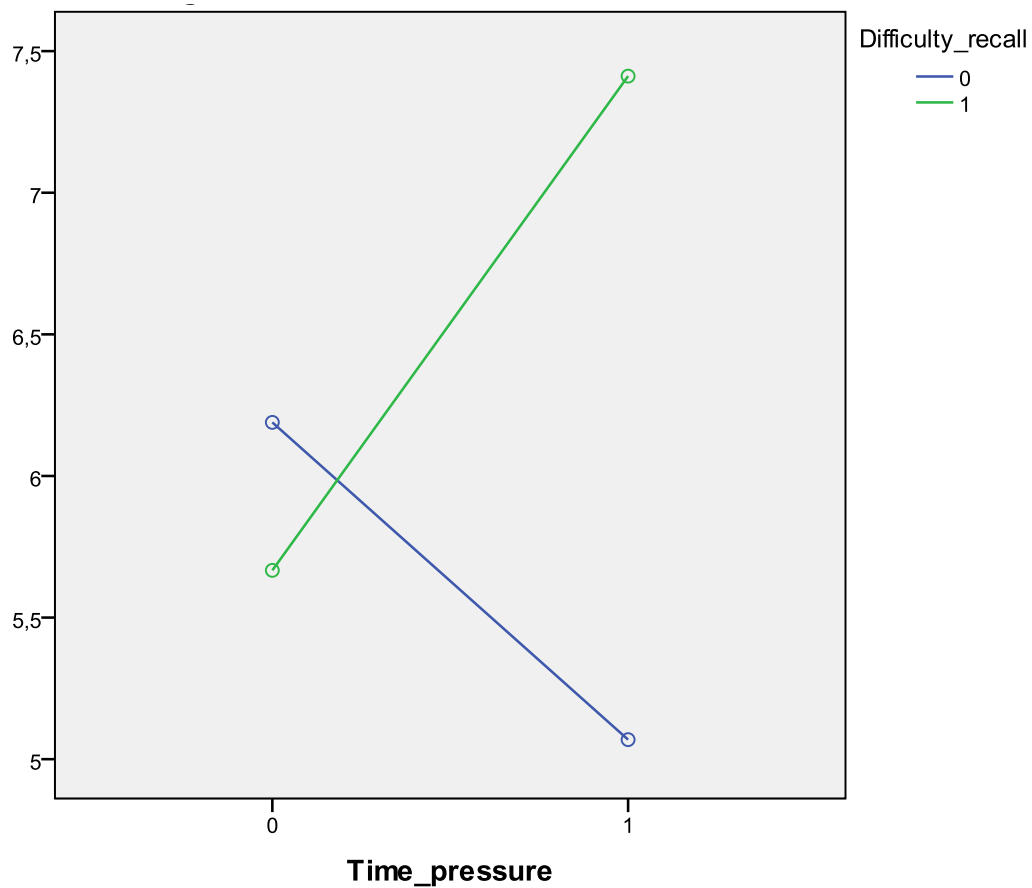


Figure 16: Interaction Effect of Difficult Recall and Time Pressure on Desire (FR)

In the same way, we tested the interaction effect of time pressure and difficulty of recall on purchase intention. We validated the assumption of equal variances ($\text{sig.} = .388 > .05$). Results revealed that the interaction between difficulty of recall and time pressure had an effect on purchase intention, $F(1, 135) = 8.076$, $p = .005 < .05$, $\eta^2 = 5.6\%$, in support of H4b. By the non-parallel line of the graph of the Figure 17, we can visualize the significant interaction effect of variables. Moreover, there was a non-significant main effect of time pressure on desire, $F(1, 135) = .065$, $p = .800 > .05$, and a significant main effect of difficulty of recall, $F(1, 135) = .6401$, $p = .013 < .05$; $\eta^2 = 4.5\%$. The overall effect (without and under time pressure) of a difficulty of recall on purchase intention is not in the interest of this research. Our previous hypothesis was the effect of difficulty of recall on desire without time pressure.

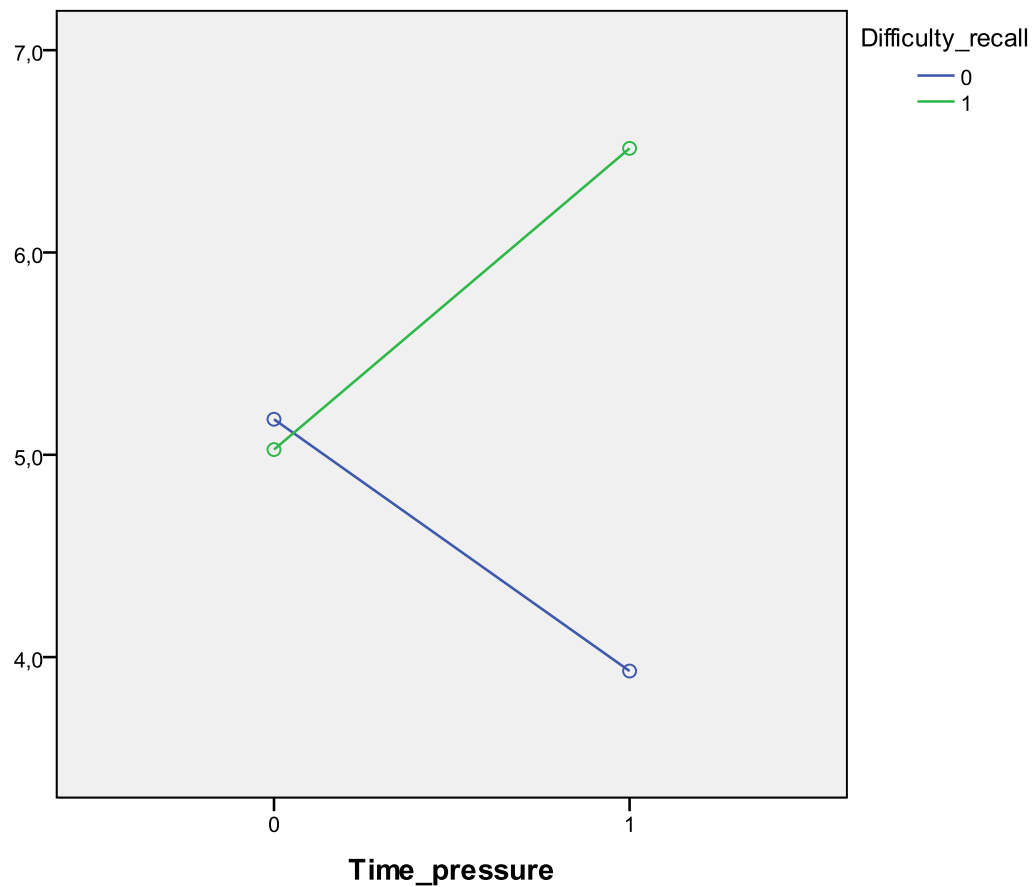


Figure 17: Interaction Effect of Difficult Recall and Time Pressure on Purchase Intention (FR)

3.12. Discussion

We demonstrate in this third experiment that the difficulty in recalling past consumptions has a positive effect on desire and purchase intention when consumers process episodic information and when they are under time pressure. Consumers tend to heuristically process information when they are experiencing time constraint.

This result is in line with previous studies such as that of Suri and Monroe (2003) who demonstrate that consumers are more likely to infer (heuristic processing) a relationship between high price and high quality when they are under time pressure. In the same way, Krishnan, Dutta and Jha (2013) show that consumers are more likely to infer a relationship

between the advertised reference price and optimal price of a product when they are under time pressure.

When consumers are not under time pressure, the difficulty of recalling past consumptions does not impact the desire and the purchase intention. This is in line with the results of our second experiment: when consumers systematically process episodic information of past consumption, desire and purchase intention are not influenced by the difficulty inference, and consequently neither by the difficulty of recall.

Summary of Chapter V

This last chapter tested the hypotheses through three experiments.

In the first experiment, we validated the effect of the difficulty in recalling past consumption on desire and purchase intention (H1a, H1b) and validated the effect of the expected difficulty (H2a, H2b) when consumers recall semantic information. In addition, we also validated the effect of desire on purchase intention. 157 individuals completed questionnaires on three experimental sites in Peru.

In the second experiment, we validated that the difficulty of recall of past consumptions neither influences desire nor purchase intention (H3a, H3b) when consumers recall episodic consumption. Results were validated for leisure activities but not for hedonic products. 198 questionnaires were completed on four experimental sites in China.

In the third experiment, we validated that there is an interaction effect between time pressure and difficulty of recall on consumers' desire and purchase intention (H4a, H4b). Results of this experiment (without time pressure) replicated results of the second experiment for non alcoholic drinks. 170 individuals through four experimental groups completed questionnaires in France.

DISCUSSION AND CONCLUSION

1. Summary of Research Findings

As proposed, the effects of recalling past consumptions of a preferred product on desire and purchase intention occurs in several ways. The difficulty in recalling past consumption of a preferred product has a positive effect on desire when consumers recall semantic information of past experiences. Consumers, based on a heuristic processing, use the difficulty inference “*it is difficult to recall, so I have not consumed a lot*” (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kahneman, 1973) to feel a deficit, and consequently desire. This is in line with the studies of Redden and Galak (2013). However, when consumers recall episodic information, the difficulty in recalling past consumption does not impact desire. Based on systematic processing, consumers are influenced by emotions, feelings of past experiences and the difficulty of recall does not trigger the use of the inference. The absence of an effect of the difficult recall on desire when consumers recall episodic information was validated two times:

- (1) Leisure activities, and
- (2) Soft drinks.

It allows us to answer to the first research question (RQ1): *What is the role of the type of information (semantic versus episodic) in the relationship between the difficulty in recalling past consumptions of a product and the desire to consume (and purchase intention) that product?*

The important condition for an individual to use the difficulty inference “it is difficult to recall, so I have not consumed a lot” (Schwarz et al., 1991; Tversky and Kahneman, 1973; Whittlesea, 1993) is related to the idea that there must be a difference between the actual difficulty of information processing and the expected one (Whittlesea and Williams, 1998; 2000; 2001a; 2001b). To have the possibility of using inferences, there must be a dissonance between our expectations and what we are actually experiencing. In this sense, when the

difficulty of recall task is expected, consumers are not influenced by the difficulty inference and consequently the difficulty of recall does not have an effect on desire. This is in line with Menon and Raghubir (2003)'s study, in which consumers use inferences when recalling positive attributes of a brand is difficult. Thus, inferences are not used when such a difficulty is expected. It allows us to answer to the second research question (RQ2): *How is the relationship between the difficulty in recalling past consumptions and desire (and purchase intention) influenced by the expected difficulty of recall task?*

When consumers are under time pressure, the desire to consume a preferred product is positively influenced by the difficulty in recalling past consumption of that product. The inference used by consumers: *"it is difficult to recall, so I have not consumed a lot"* is activated under time pressure. Consumers tend to heuristically process information when they are constrained by time as in Suri and Monroe (2003)'s study, which demonstrates that consumers are more likely to infer (heuristic processing) a relationship between high price and high quality when under time pressure. Time pressure impacted the mechanism of information processing by giving rise to the tendency of using heuristics to simplify the cognitive task (Andersen et al., 2007; Chaiken, 1980; Kaplan et al., 1993). In addition, according to the heuristic-systematic model (Chaiken, 1980), the use of heuristics for the recall of past consumption of a product depended on the time pressure. It allows us to answer to third research question (RQ3): *How is the relationship between the difficulty in recalling past consumptions and desire (and purchase intention) influenced by time pressure?*

Furthermore, the conditions such as the difficulty of recall and control variables such as frequency of consumption and preference for products were successfully manipulated and they allow us to verify the relationship between difficulty of recall, consumption desire and purchase intention.

2. Contributions

Our research replicated the relationship between the difficulty in recalling past consumption and desire (Redden and Galak, 2013) when consumers recalled semantic information from past consumption but not when episodic information was recalled. In general, unlike Redden and Galak's (2013) studies, we propose that the type of information (semantic versus episodic) to be processed influences the effect of the difficult recall of past consumption on desire and purchase intention. In addition, in contrast to our study, they asked individuals to recall their favorite food without the presence of a stimulus, while our study presented different products to consumers and asked them to choose their favorite soft drink. Our manipulation is situated in a marketing context, whereas their manipulation was more psychological. Likewise, they were interested in showing the effect of the difficulty of recall on the feeling of satiation while we were interested in the effect of the difficulty of recall on consumption desire and purchase intention of consumers.

Other research demonstrated that the recall of enjoyment in end moments of a past rewarding experience, rather than initial moments, determine how soon people desire to repeat that experience (Garbinsky, Morewedge and Shiv, 2014). This study focuses on an analytic recall of past experiences (experience in parts) whereas our study focuses on a holistic recall of past experiences (experience as a whole). Likewise, Robinson, Blisset and Higgs (2012)'s study demonstrates that a simple intervention could be used to increase the recalled enjoyment of food. They manipulated the information rehearsing in order to change the way it is encoded in memory, making it more memorable. In our case, we only analyzed the retrieval but not the storing or encoding of information.

Unlike this previous work, we focused on the effect of recalling (systematic and heuristic processing) past experiences (semantic and episodic information) on consumption desire and some conditions such as the expected difficulty and time pressure. We demonstrate that this effect can be generated by how information about past experiences comes to mind, and what

kind of information comes to mind, (Lee, 2004) as well as some conditions of malleability (Schwarz, 2010).

Our work confirms the application of the Dual-Process Theory (Chaiken, 1980; Chaiken and Trope, 1998) and is in line with the Dynamic Model of Desire (Hofmann and Van Dillen, 2012). For instance, consumers' desire is conscious (systematic processing) when they recall the content (episodic information) of past consumptions. Desire is unconscious (heuristic processing) when consumers recall the date (semantic information) of past consumptions and they feel that this task is difficult, thus triggering the use of inferences. Moreover, the application of the Dual-Process Theory of Desire is also in accordance with the associative and elaborative process of Kavanagh, Andrade, and May (2005)'s Theory of Desire. Heuristic information processing corresponds to associative process of desire whereas systematic information processing to elaborative process.

Our results can be understood from the perspective of competing theories. It means that the relationship between difficulty in recalling past consumption of a preferred product and desire could also be explained by the top-down emotion generation where low-level appraisal might be primed by higher level processes, and also by the bottom-up emotion generation where low-level process prime higher level process (Leventhal and Scherer, 1987; van Renkum and Scherer, 1997). The high level refers to a sophisticated and slow processing whereas the low level to automatic prewired routines. The heuristic information processing of rewarding consumption experiences would refer to top-down emotion generation and the systematic information processing to bottom-up emotion generation. Unlike this theory, we focus on desire that is not only influenced by the simulation of emotional or pleasurable experiences but also by the feeling of deficit. In our research, the latter is affected by the difficulty inference.

3. Implications

Our contribution has the potential to help marketers take action regarding the recall of the past consumption of a product that is frequently consumed and has a high preference rate. Marketers may find opportunities to highlight how little individuals consume the product. To evoke more desire and purchase intention, consumers must be conditioned to difficult recalls of past consumptions. Marketers can directly message to consumers asking them to recall past consumptions.

Given that packaging information can influence the consumer's perception of the product, marketing communication strategy can be applied to the surface of the package in order to condition consumers to desire and to purchase the product. This communication strategy would consist in asking consumers to recall the last times they consumed the product. For instance, questions could be added in the center of the packaging of hedonic products as chips or chocolate.

Another managerial implication of our research would be the introduction of questions about the difficult recall of past consumption in the more preferred and frequently consumed product of a menu card. For instance, if the Hawaiian pizza is the more consumed and preferred in a pizza restaurant, the difficulty in recalling past consumption could increase the desire to consume that product through the feeling of deficit.

Marketers could also use questions about the difficult recall of past consumptions in advertisements. For instance, questions about the past consumption of a star product as the Big Mac of McDonalds could be asked in advertisement in order to increase desire and purchase intention by the difficulty of recall. In the same way, during an advertisement brands as Coca cola or Springler one could also ask consumers to recall past consumption and induce desire to consume these products.

In addition, sellers can induce desire and purchase intention of consumers by asking them about directly past consumptions of a preferred product. For instance, Domino's Pizza sellers

could influence the desire of consumers for a special pizza when they are making a decision.

Sellers could ask consumer to recall the last times they consumed this preferred pizza.

In all cases, questions about the last times of consumption of a preferred product must specially focus on semantic information such as the last days that products were consumed by individuals or the places where they consumed products in order to influence desire and purchase intention more effectively.

In addition, time pressure could be conditioned in buying decisions in order to make consumers use a heuristic processing of past consumptions. If consumers recall semantic or episodic information of past consumptions, the influence of the difficult recall on desire and purchase intention will always be positive under time pressure.

4. Limitations

No research is without limitation, and this part will address some of the limitations of our research.

The first and most important limitation of our research is that we do not directly measure the feeling of deficit. This implies that we suppose that the difficult recall of past consumptions induces consumers to use the difficulty inference “*it is difficult to recall, so I have not consumed a lot*” (Schwarz et al., 1991; Schwarz, 2004; Tversky and Kahneman, 1973), which makes them feel a deficit and consequently a desire for consumption. The mediating variables between the difficulty of recall and desire must be analyzed in future research.

A second limitation is that we do not use a full factorial experimental design to study all the conditions of our research such as 2 (semantic versus episodic information) x 2 (expected versus unexpected difficulty of recall task) x 2 (easy versus difficult recall) x 2 (without versus under time pressure) x 2 (hedonic product versus leisure activities) = 32 scenarios. However, we adapted our experiments to the accessibility of the data and to the specific objectives of our research.

The measure of desire with a single indicator is a third limitation. The reliability and validity of this measure cannot be tested in the experiments. However, the use of a single or multiple indicators was discussed in the methodological research. For instance, the multiple indicator factor tradition includes works by Thurstone (1947), Mulaik (1972) and Byrne (1989), while the single indicator path tradition has roots in regression and includes Wright (1921), Duncan (1975), Heise (1975), and Hayduck and Littvay (2012). The latter recommends the use of the few best indicators (one or two indicators are sufficient) because additional redundant indicators can introduce additional problems in the error variance or the causality. In addition, Rossiter (2002, p. 313) stated that the use of more than a single item to measure a concept in a scale is not necessary. He also stipulates that the goal of using a single item is to develop a

good item. Because we used an item that has been already used in previous research and several experiments, we can deduce the accuracy of that item.

A fourth limitation is the lack of manipulation check for the experimental condition of time pressure. To avoid the criticism putting forward that many researchers select time pressure arbitrarily (Ordoñez and Benson, 1997), a manipulation check should have been tested. The appropriateness of time pressure conditions should be tested using a subjective time pressure manipulation (Hornik, 1984). However, time pressure was manipulated here in accordance with previous studies and had a demonstrated influence on dependent variables.

In the condition of time pressure, since it makes individuals depend on heuristic information processing, we deduced that consumers assigned the difficulty of recall to the fact that they did not consume a lot, and consequently they experience more desire to consume products. However, difficulty of recall could also be assigned to time pressure. Consumers could deduce that the recall task is difficult because of the constraint of time and not because they did not consume a lot. It is the fifth limitation of this research. Despite this limitation, we think that it is more probable that consumers use the difficulty inference because of its automaticity propriety (Menon and Raghurir, 2003), whereas the assignation of the difficulty recall to time pressure will depend on a meta-cognitive experience. In a time pressure condition, a meta-cognitive experience is less probable to happen.

Given that our research is applied to products with an irregular consumption, the sixth limitation that we have in this research is the fact that we did not measure the regularity of consumption of products. For instance, if participants consumed a preferred product as coca-cola everyday during the break of classes, then the recall task will not be difficult. Likewise, if participants have the habit to go to the cinema every Saturday night, then the recall task will also not be difficult.

A seventh limitation is the non replication of results for hedonic products in the second experiment. The difficulty in recalling past consumption of a preferred product had a negative effect on desire and purchase intention. Consumers who experienced a difficulty in recalling past consumption of their preferred product desired that product less than those who had an easy recall task. This different result opens a way for future research to focus on other types of reasoning that could be used by individuals when they recall episodic information from their past consumption. An explanation for this result is the fact that the feeling of deficit of consumers was influenced by the quantity of recalled times. Consumers that were asked to recall the three last times they consumed the products felt less deficit than those who recalled the last time because they deduced to have consumed more times. Since consumers were not influenced by the difficulty inference when they recalled episodic information, their feelings of deficit were influenced by the quantity of recalled consumption. This result is in accord with the founder work of Schwarz et al. (1991). Individuals who recalled twelve assertive behaviors and who were not influenced by easy-of-recall inference because of music, felt by themselves more assertive than those who recalled six assertive behaviors. The non use of inference made individuals depend on declarative information and they deduced assertiveness through the quantity of recalled assertive behaviors (Schwarz et al., 1991, experiment 3).

Finally, the last limitation we have identified is the lack of discriminate validity. Since desire is measured by only one item, the assessment of discriminate validity by Fornell and Larcker (1981)'s technique is not possible. However, we used the correlation-matrix and component-matrix in order to evaluate discrimination of variables. In the first experiment, components are representatives for the variables of desire, purchase, and difficulty of recall; and correlations between concepts are less than correlation within concept (Appendix VI).

5. Future Research

As said before, future research should analyze the feeling of deficit as a mediating variable in the relationship between the difficulty of recall and desire. The feeling of deficit should be measured and its predictor power demonstrated.

Moreover, future research should focus on other inferences that consumers may use when they recall past consumption of a preferred product. For instance, if consumers expect to easily recall good past consumption experiences of a product, then they could realize that they truly do not like that product if recalling good experiences is very difficult. Consumers could assign this difficulty to fact that they do not like that product and consequently desire would decrease.

In addition, the type of experience recalled should also be analyzed, for instance, if individuals recall past extraordinary experiences or if the vividness of recalled experiences is strong, then the desire of consumption may not be influenced by inferences because of the affective engagement of consumers through the strong emotions and feelings.

Likewise, it would be interesting to analyze other relevant conditions under which the use of inferences might actually have an effect. For instance, individuals in high need for closure will be more likely to engage in effortful elaborative process than individuals with a low need for closure, who are more likely to rely on less effortful and heuristic processing (Petty et al., 2009). It means that the desire of consumers with a high need for closure is less likely to be influenced by the difficulty in recalling past consumption of a preferred product because consumers will be motivated by themselves to make an effort to recall past consumption. In same way, the consumers' mood could have an influence on information processing of past consumption (Bless et al., 1990). For instance, a happy consumer could depend on a heuristic information processing and be influenced by the difficulty inference

Finally, since the recall of past consumption depends on memory, the encoding and the storage of information should also be analyzed.

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APPENDICES

Appendix I: Questionnaire in Peru



En el marco de una investigación científica en la Universidad Aix-Marseille en Francia, le solicitamos por favor rellenar este cuestionario. Solamente su opinión personal nos interesa, no existen buenas ni malas respuestas. Este cuestionario es anónimo y le tomará solo algunos minutos.

As part of scientific research at Aix-Marseille University in France, we ask you to please complete this questionnaire. Only your personal opinion interests us, there are no right or wrong answers. This questionnaire is anonymous and will take just a few minutes.

Estamos interesados en su grado de acuerdo o desacuerdo con las proposiciones referentes a la compra de gaseosas. Le agradecemos responder a las siguientes preguntas y no regresar a la página anterior una vez esta ha sido respondido.

We are interested in how much you agree or disagree with the questions on the purchase of soda. Thank you for answering the following questions. No returns to previous pages are possible once a question has been answered.

Elija de la siguiente lista la gaseosa favorita que usted consume habitualmente:

Choose from the list below the favorite soda you usually consume:



Trate de recordar la[s] [tres] última[s] vez que usted consumió esta gaseosa.

Try to remember the [three] last time you consumed this soda.

¿Cuándo fue la última vez que usted consumió esta gaseosa?

When was the last time you consumed this soda?

Hace cuantos días:

How many days ago:

[¿Cuándo fue la penúltima vez que usted consumió esta gaseosa?

When was the penultimate time you consumed this soda?

Hace cuantos días:

How many days ago:

¿Cuándo fue la antepenúltima vez que usted consumió esta gaseosa?

When was the before the penultimate time you consumed this soda?

Hace cuantos días:

How many days ago:]

[[Como usted puede saber, recordar las tres últimas veces que usted consumió esta gaseosa puede ser una tarea bastante difícil]]

You know, remembering the three last times you consumed this drink can be quite a difficult task

¿Tiene usted ganas de beber esta gaseosa ahora?

How much would you like to consume this drink now?

(Responda de « 0 » = Sin ganas a « 10 » = Muchas ganas)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

¿Cuál sería la probabilidad que usted compre esta gaseosa, si tiene la oportunidad en este momento preciso?

How likely would you buy this drink, if you had the opportunity right now?

(Responda de “0” = no probable a “10” = muy probable)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

¿Cuál sería su intención en comprar esta gaseosa, si usted tiene la oportunidad en este momento preciso?

Would you intend to buy this drink, if you have the opportunity right now?

(Responda de « 0 » = Sin intención a « 10 » = Muy alta)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

Cuando usted trató de recordar la[s] [tres] última[s] vez que consumió esta gaseosa:

When you tried to recall the [three] last time you consumed this soda:

Encontró difícil esta tarea:

The recall task was difficult:

(Responda de « 0 » = En absoluto à « 10 » = Muy de acuerdo)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

Esta tarea dio lugar a un gran esfuerzo:

The recall task took you a lot of effort:

(Responda de « 0 » = En absoluto à « 10 » = Muy de acuerdo)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

Esta tarea le obligó a pensar mucho:

The recall task made you to think a lot:

(Responda de « 0 » = En absoluto à « 10 » = Muy de acuerdo)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

¿Cuánto le gusta esta gaseosa?

How much do you prefer this soda?

(Responda de « 0 » = en absoluto a « 10 » = Mucho)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

¿Cuál es su frecuencia de consumo de esta gaseosa por mes?

What is the frequency of consumption of this drink per month?

←————→
0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; 10 ; 11 ; 12 ; 13 ; 14 ; 15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 22 ; 23 ; 24 ; 25 ; 26 ; 27 ; 28 ; 29 ; 30 o mas

←————→
0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; 10 ; 11 ; 12 ; 13 ; 14 ; 15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 22 ; 23 ; 24 ; 25 ; 26 ; 27 ; 28 ; 29 ; 30 or more

Información socio-demográfica:

Socio-demographic information:

Nivel de estudios:

Education:

| | | | |
|--------------------------------|--------------------------|--------------------------|-----------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Secundaria | Instituto Superior | Universidad | Post grado |
| <i>High School & below</i> | <i>Institute</i> | <i>University</i> | <i>Graduate & above</i> |

Sexo:

Gender:

| | |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| Masculino | Femenino |
| <i>Male</i> | <i>Female</i> |

Ingresos familiares mensuales:

Domestic Income:

| | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Menos de 1000s | 1000s – 2000s | 2000s – 4000s | Más de 4000s |
| <i>Less than 1000 s</i> | | | <i>More than 4000 s</i> |

¿Es usted de Lima?

Are you from Lima?

☐

Si

Yes

☐

No

No

¿Cuánto tiempo vive en Lima?

How long do you live in Lima?

(Solo si la respuesta a la pregunta anterior fue « No »)

(Only if your answer in the previous question was “No”)

☐

Menos de un año

Less than 1 year

☐

Entre 1 y 4 años

1-4 years

☐

Entre 5 y 10 años

5-10 years

☐

Más de 10 años

More than 10 years

¿Qué edad tiene usted?

Age:

☐

25 años o
menos

*Less than
25 years*

☐

Entre 26 y
35 años

*26-35
years*

☐

Entre 36 y
45 años

36-45 years

☐

Entre 46 y
55 años

46-55 years

☐

Más de 55
años

*More than
55 years*

Gracias por participar en esta encuesta!

Thank you for participating in this questionnaire!

Appendix II: Questionnaire in China –Leisure Activity



为完成一项艾克斯-马赛大学的科学研究，我们邀请您参与我们的问卷调查。此问卷的回答仅限于您的个人意见，不存在答案的正确与否。我们将采用完全匿名的方式保障您的隐私权，并且仅占用您几分钟的时间。

As part of scientific research at Aix-Marseille University in France, we ask you to please complete this questionnaire. Only your personal opinion interests us, there are no right or wrong answers. This questionnaire is anonymous and will take just a few minutes.

这是一份有关您对娱乐活动看法的问卷。请您按照顺序答题，注意不要回到已答页面。

We are interested in how much you agree or disagree with the questions on the purchase of soda. Thank you to answer the following questions. No returns to previous pages are possible once a question has been answered.

请选择您平时偏好参与的娱乐活动:

Choose from the list below the favorite leisure activity you usually realize:



电影院
Cinema



餐厅
Restaurant



酒吧
Club



音乐会/演唱会
Concert



剧院
Theater



Karaoke
Karaoke

请尝试回忆最近一 [三] 次您参与这项娱乐活动的情况, 并回答以下问题 :

Remember carefully the [three] last time[s] you realized this leisure activity.

您是否想在当下立即参加这个活动 ?

How much would you like to realize this leisure activity now?

(回答从“0”=很少参加 到 “10”=经常参加)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

如果此刻您有机会实施这项活动，您选择参与的机率是：

How likely would you realize this leisure activity, if you had the opportunity right now?

回答从“0”= 机率很小 到 “10”= 机率很大)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

如果此刻您有机会实施这项活动，您实现它的意愿是：

Would you intend to buy this leisure activity, if you have the opportunity right now?

(回答从“0”= 意愿很小, 到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

当您尝试回忆最近一 [三] 次您参与这项娱乐活动的情况时：

When you tried to recall the [three] last time[s] you realized this leisure activity:

您觉得回忆起来很困难：

The recall task was difficult:

(回答从“0”= 意愿很小，到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

回忆过程花了很多功夫

The recall task took you a lot of effort:

(回答从“0”= 意愿很小，到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

它使您想了好半天

The recall task made you to think a lot:

(回答从“0”= 意愿很小，到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

您有多喜爱这项娱乐活动?

How much do you prefer this leisure activity?

(回答从“0”= 意愿很小，到“10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

您每个月开展这项娱乐活动的频率是？

What is the frequency of consumption of this leisure activity per month?

←—————→
0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; 10 ; 11 ; 12 ; 13 ; 14 ; 15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 22 ; 23 ; 24 ; 25 ; 26 ; 27 ; 28 ; 29 ; 30

您的基本信息

Socio-demographic information:

您的教育程度：

Education:

☐

高中或以下

High School & below

☐

大学本科

Institute/University

☐

硕士

University

☐

硕士以上

Graduate & above

您的性别

Gender:

☐

男

Male

☐

女

Female

您的家庭月收入

Domestic Income:

☐☐☐☐

| | | | |
|------------------------|----------------------|----------------------|------------------------|
| 低于一万 | 1 万-2 万 | 2 万-4 万 | 4 万以上 |
| <i>Less than 1000¥</i> | <i>1000¥ - 2000¥</i> | <i>2000¥ - 4000¥</i> | <i>More than 4000¥</i> |

您的年龄

Age:

| | | | | |
|-------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 岁以下 | 26-35 岁 | 36-45 岁 | 46-55 岁 | 55 岁以上 |
| <i>Less than 25 years</i> | <i>26-35 years</i> | <i>36-45 years</i> | <i>46-55 years</i> | <i>More than 55 years</i> |

十分感谢您参与本次调查！

Thank you for participating in this questionnaire!

Appendix III: Questionnaire in China – Hedonic Products



为完成一项艾克斯-马赛大学的科学研究，我们邀请您参与我们的问卷调查。此问卷的回答仅限于您的个人意见，不存在答案的正确与否。我们将采用完全匿名的方式保障您的隐私权，并且仅占用您几分钟的时间。

As part of scientific research at Aix-Marseille University in France, we ask you to please complete this questionnaire. Only your personal opinion interests us, there are no right or wrong answers. This questionnaire is anonymous and will take just a few minutes.

这是一份有关您对娱乐活动看法的问卷。请您按照顺序答题，**注意不要回到已答页面**。

We are interested in how much you agree or disagree with the questions on the purchase of soda. Thank you to answer the following questions. No returns to previous pages are possible once a question has been answered.

请选择您平时偏好购买的商品：

Choose from the list below the favorite product you usually consume:



薯片

Chips



匹萨

Pizza



巧克力

Chocolat



汉堡包

Hamburger



汽水

Soft drink



糖果

Candy

请您回忆记得最近一[三]次购买这个商品的情况，并回答接下来的问题。

Remember carefully the [three] last time[s] you consumed this product.

您近期有购买这个商品吗？

How much would you like to consume this product now?

(回答从"0"=很少参加 到 "10"=经常参加)

(Answer from "0" = not at all to "10" = very much)

0 1 2 3 4 5 6 7 8 9 10

如果此刻您有机会购买这个商品，您选择购买它的机率是：

How likely would you consume this product, if you had the opportunity right now?

回答从"0"= 机率很小 到 "10"= 机率很大)

(Answer from "0" = not at all to "10" = very much)

0 1 2 3 4 5 6 7 8 9 10

如果此刻您有机会购买这个商品，您选择购买它的意愿是：

Would you intend to buy this product, if you have the opportunity right now?

(回答从"0"= 意愿很小， 到 "10"="很有意愿")

(Answer from "0" = not at all to "10" = very much)

0 1 2 3 4 5 6 7 8 9 10

当您尝试回忆最近一[三]次您消费这个商品的情况时:

When you tried to recall the [three] last time[s] you consumed this product:

您觉得回忆起来很困难:

The recall task was difficult:

(回答从“0”= 意愿很小, 到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

回忆过程花了很多功夫

The recall task took you a lot of effort:

(回答从“0”= 意愿很小, 到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

它使您想了好半天

The recall task made you to think a lot:

(回答从“0”= 意愿很小, 到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

您有多喜爱这个商品?

How much do you prefer this product?

(回答从“0”= 意愿很小, 到 “10”=“很有意愿”)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

您每个月购买这个商品的频率是？

What is the frequency of consumption of this product per month?

←—————→
0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; 10 ; 11 ; 12 ; 13 ; 14 ; 15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 22 ; 23 ; 24 ; 25 ; 26 ; 27 ; 28 ; 29 ; 30

您的基本信息

Socio-demographic information:

您的教育程度：

Education:

| | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 高中或以下 | 大学本科 | 硕士 | 硕士以上 |
| High School & below | Institute/University | University | Graduate & above |

您的性别

Gender:

| | |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| 男 | 女 |
| Male | Female |

您的家庭月收入

Domestic Income:

| | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 低于一万 | 1 万-2 万 | 2 万-4 万 | 4 万以上 |
| Less than 1000¥ | 1000¥ - 2000¥ | 2000¥ - 4000¥ | More than 4000¥ |

您的年龄

Age:

| | | | | |
|-------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 25 岁以下 | 26-35 岁 | 36-45 岁 | 46-55 岁 | 55 岁以上 |
| <i>Less than 25 years</i> | <i>26-35 years</i> | <i>36-45 years</i> | <i>46-55 years</i> | <i>More than 55 years</i> |

十分感谢您参与本次调查！

Thank you for participating in this questionnaire!

Appendix IV: Questionnaire in France



Dans le cadre d'une recherche scientifique à l'Université Aix-Marseille, nous vous remercions de bien vouloir répondre à ce questionnaire. Seul votre avis personnel nous intéresse, il n'existe donc pas de bonnes ou de mauvaises réponses. Ce questionnaire est anonyme et ne vous prendra que quelques minutes.

As part of scientific research at Aix-Marseille University in France, we ask you to please complete this questionnaire. Only your personal opinion interests us, there are no right or wrong answers. This questionnaire is anonymous and will take just a few minutes.

Nous sommes intéressés par votre degré d'accord ou de désaccord avec des propositions concernant le rachat de boissons rafraîchissantes. Merci de répondre aux questions suivantes et de ne pas revenir en arrière une fois que vous avez répondu.

We are interested in how much you agree or disagree with the questions on the purchase of soda. Thank you to answer the following questions. No returns to previous pages are possible once a question has been answered.

Choisissez dans la liste votre boisson préférée (bouteille ou canette) que vous consommez habituellement :

Choose from the list below the favorite soda you usually consume:



Rappelez-vous avec attention les deux [six] dernières fois que vous avez consommé cette boisson.

Remember carefully the two [six] last times you consumed this soda.

(Réalisez cette tâche avant de passer aux questions suivantes)

(Perform this task before moving on to the following questions)

Aimeriez-vous boire cette boisson tout de suite ?

How much would you like to consume this drink now?

(Répondez de « 0 » = Pas du tout à « 10 » = Beaucoup)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

Quelle serait la probabilité que vous achetiez cette boisson, si vous en aviez l'opportunité à ce moment précis ?

How likely would you buy this drink, if you had the opportunity right now?

(Répondez de « 0 » = Pas du tout à « 10 » = Très forte)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

Quelle serait votre intention d'acheter cette boisson, si vous en aviez l'opportunité à ce moment précis ?

Would you intend to buy this drink, if you have the opportunity right now?

(Répondez de « 0 » = Pas du tout à « 10 » = Très forte)

(Answer from “0” = not at all to “10” = very much)

0 1 2 3 4 5 6 7 8 9 10

Lorsque vous avez essayé de vous rappeler les deux [six] dernières fois que vous avez consommé cette boisson :

When you tried to recall the [six] two last times you consumed this soda:

Vous avez trouvé cette tâche de rappel difficile :

The recall task was difficult:

(Répondez de « 0 » = Pas du tout d'accord à « 10 » = Tout à fait d'accord)

(Answer from "0" = not at all to "10" = very much)

0 1 2 3 4 5 6 7 8 9 10

Cela a demandé beaucoup d'efforts :

The recall task took you a lot of effort:

(Répondez de « 0 » = Pas du tout d'accord à « 10 » = Tout à fait d'accord)

(Answer from "0" = not at all to "10" = very much)

0 1 2 3 4 5 6 7 8 9 10

Cela vous a obligé à beaucoup réfléchir :

The recall task made you to think a lot:

(Répondez de « 0 » = Pas du tout d'accord à « 10 » = Tout à fait d'accord)

(Answer from "0" = not at all to "10" = very much)

0 1 2 3 4 5 6 7 8 9 10

A quel point aimez-vous cette boisson ?

How much do you prefer this soda?

(Répondez de « 0 » = Très peu à « 10 » = Beaucoup)

(Answer from “0” = not at all to “10” = very much)

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|----|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|----|

A quelle fréquence consommez-vous cette boisson par mois ?

What is the frequency of consumption of this drink per month?

0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; 10 ; 11 ; 12 ; 13 ; 14 ; 15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 22 ; 23 ; 24 ; 25 ; 26 ; 27 ; 28 ; 29 ; 30 ou plus

0 ; 1 ; 2 ; 3 ; 4 ; 5 ; 6 ; 7 ; 8 ; 9 ; 10 ; 11 ; 12 ; 13 ; 14 ; 15 ; 16 ; 17 ; 18 ; 19 ; 20 ; 21 ; 22 ; 23 ; 24 ; 25 ; 26 ; 27 ; 28 ; 29 ; 30 or more

Informations socio démographiques :

Socio-demographic information:

Votre niveau d'études :

Education:

| | | | |
|---|------------------------------------|---------------------------|----------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Baccalauréat et en dessous (CAP, BEP) | Bac+2/+3 (BTS, DUT, Licence) | Bac+4/5 (Master 1 & 2) | Bac+6 et au dessus (Doctorat) |
| <i>High School & below</i> | <i>Institute/University</i> | <i>University</i> | <i>Graduate & above</i> |

Votre sexe :

Gender:

| | |
|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> |
| Masculin | Féminin |
| <i>Male</i> | <i>Female</i> |

Vos revenus familiaux mensuels:

Domestic Income:

| | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Moins de 1000€ | 1000€ - 2000€ | 2000€ - 4000€ | Plus de 4000€ |
| <i>Less than 1000€</i> | | | <i>More than 4000€</i> |

Etes-vous de nationalité française?

Are you French ?

☐

Oui

Yes

☐

Non

No

Depuis combien de temps habitez-vous en France?

How long do you live in France?

(Seulement si votre réponse à la question précédente est "Non")

(Only if your answer in the previous question was "No")

☐

Moins d'un an

Less than 1 year

☐

Entre 1 et 4 ans

1-4 years

☐

Entre 5 et 10 ans

5-10 years

☐

Plus de 10 ans

More than 10 years

Quel âge avez-vous ?

Age:

☐

25 ans ou
moins

*Less than
25 years*

☐

Entre 26 et
35 ans

*26-35
years*

☐

Entre 36 et
45 ans

*36-45
years*

☐

Entre 46 et
55 ans

*46-55
years*

☐

Plus de 55
ans

*More than
55 years*

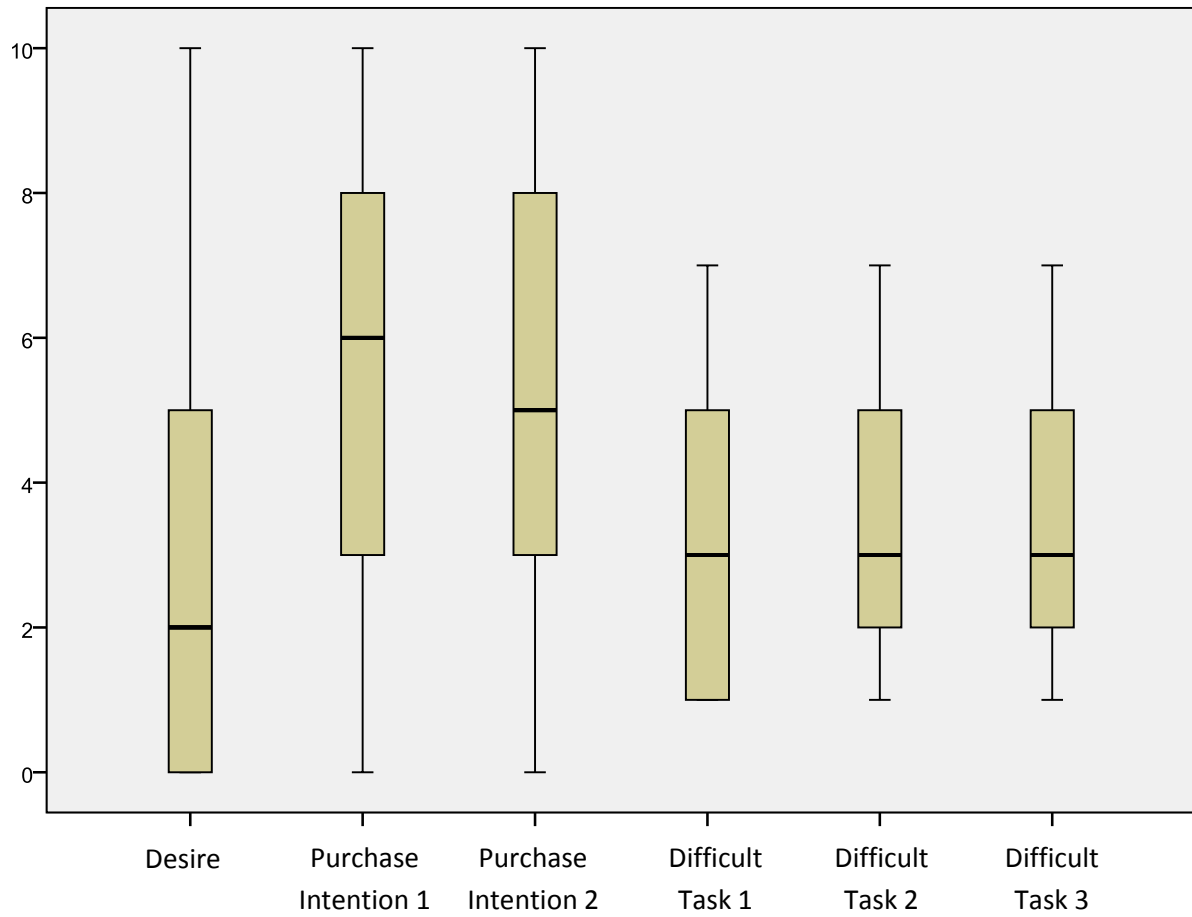
Merci pour votre participation à cette enquête !

Thank you for participating in this questionnaire!

Appendix V: Extreme Values

1) Data in Peru

a. Detection of Univariate Outliers through Box Plots

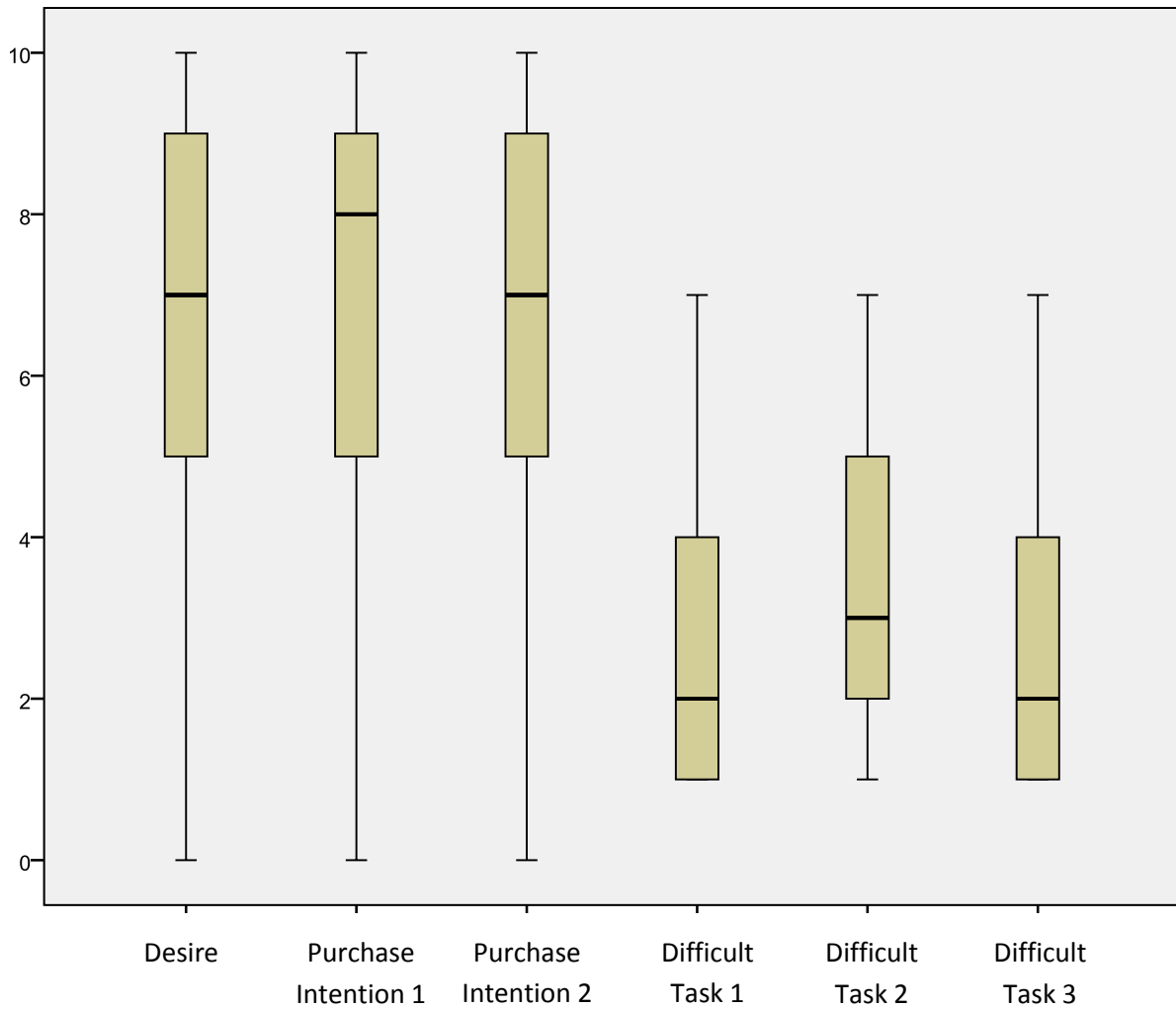


b. Detection Multivariate Outliers

| Individual | Desire | PurchaseIntention1 | PurchaseIntention2 | DifficultTask1 | DifficultTask2 | DifficultTask3 | Mahalanobis |
|------------|--------|--------------------|--------------------|----------------|----------------|----------------|-------------|
| 44 | 0 | 6 | 10 | 6 | 3 | 2 | 16,43298 |
| 4 | 0 | 6 | 8 | 1 | 4 | 2 | 14,24625 |
| 31 | 0 | 8 | 2 | 7 | 6 | 6 | 13,50321 |
| 80 | 0 | 2 | 3 | 4 | 4 | 1 | 12,91167 |
| 82 | 1 | 4 | 5 | 6 | 2 | 2 | 12,55225 |
| 14 | 0 | 7 | 9 | 7 | 7 | 7 | 11,75369 |
| 2 | 10 | 10 | 10 | 4 | 7 | 6 | 11,63988 |
| 107 | 0 | 10 | 1 | 1 | 2 | 1 | 11,61399 |
| 22 | 2 | 7 | 9 | 6 | 5 | 2 | 11,58312 |
| 76 | 2 | 2 | 2 | 1 | 2 | 5 | 11,14538 |
| 55 | 0 | 0 | 0 | 7 | 7 | 7 | 10,97290 |
| 105 | 5 | 7 | 2 | 1 | 3 | 1 | 10,70277 |
| 13 | 10 | 7 | 10 | 4 | 5 | 2 | 10,55430 |
| 81 | 9 | 2 | 3 | 1 | 1 | 1 | 10,36028 |
| 42 | 0 | 7 | 1 | 4 | 2 | 3 | 10,20252 |
| 12 | 0 | 1 | 5 | 7 | 6 | 5 | 9,80345 |
| 100 | 1 | 2 | 3 | 4 | 1 | 1 | 9,53431 |

2) Data in China

a. Detection of Univariate Outliers through Box Plots

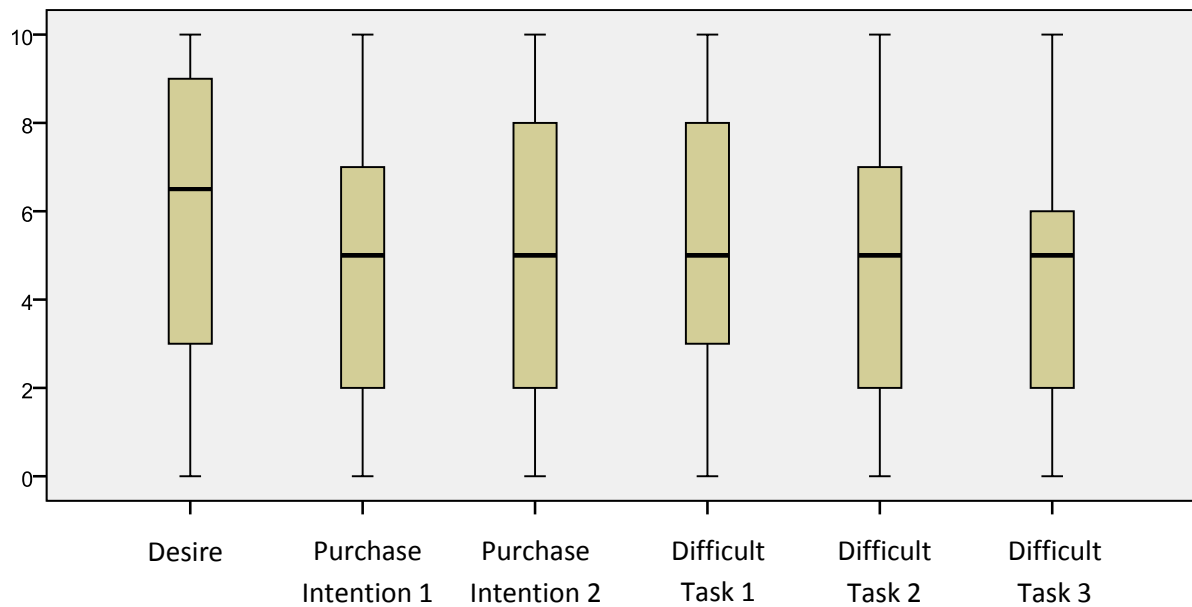


b. Detection Multivariate Outliers

| Id | Desire | PurchaseIntention1 | PurchaseIntention2 | DifficultTask1 | DifficultTask2 | DifficultTask3 | Mahalanobis |
|-----|--------|--------------------|--------------------|----------------|----------------|----------------|-------------|
| 111 | 1 | 2 | 2 | 2 | 4 | 2 | 18,82682 |
| 195 | 4 | 5 | 9 | 4 | 3 | 3 | 18,64834 |
| 189 | 1 | 1 | 1 | 3 | 3 | 5 | 18,56943 |
| 23 | 0 | 4 | 2 | 4 | 2 | 2 | 18,33513 |
| 106 | 2 | 10 | 6 | 3 | 3 | 3 | 18,17875 |
| 84 | 5 | 8 | 5 | 3 | 5 | 3 | 18,15120 |
| 129 | 6 | 10 | 5 | 2 | 2 | 2 | 18,10102 |
| 194 | 8 | 1 | 3 | 3 | 3 | 3 | 17,43291 |
| 192 | 2 | 10 | 10 | 2 | 2 | 2 | 17,12722 |
| 87 | 1 | 1 | 1 | 6 | 4 | 4 | 16,61555 |
| 22 | 2 | 3 | 5 | 2 | 4 | 4 | 16,47395 |
| 113 | 0 | 3 | 6 | 5 | 5 | 5 | 16,45273 |
| 160 | 3 | 7 | 5 | 2 | 4 | 2 | 16,43133 |
| 109 | 1 | 1 | 1 | 3 | 5 | 5 | 16,00325 |
| 183 | 9 | 8 | 8 | 7 | 5 | 6 | 15,39478 |
| 36 | 9 | 10 | 9 | 3 | 3 | 5 | 15,30449 |
| 107 | 10 | 4 | 5 | 3 | 2 | 2 | 14,81311 |

3) Data in France

a. Detection of Univariate Outliers through Box Plots



b. Detection Multivariate Outliers

| Id | Desire | PurchaseIntention1 | PurchaseIntention2 | DifficultTask1 | DifficultTask2 | DifficultTask3 | Mahalanobis |
|-----|--------|--------------------|--------------------|----------------|----------------|----------------|-------------|
| 12 | 8 | 6 | 8 | 0 | 5 | 6 | 17,71108 |
| 14 | 5 | 3 | 1 | 5 | 7 | 2 | 17,24228 |
| 121 | 0 | 7 | 6 | 10 | 9 | 6 | 17,05116 |
| 156 | 0 | 8 | 8 | 2 | 1 | 2 | 15,32158 |
| 185 | 2 | 3 | 1 | 0 | 0 | 3 | 14,68340 |
| 64 | 9 | 6 | 10 | 8 | 7 | 4 | 14,51898 |
| 173 | 10 | 7 | 7 | 7 | 1 | 1 | 14,00269 |
| 65 | 3 | 10 | 8 | 10 | 7 | 6 | 13,89796 |
| 90 | 9 | 4 | 8 | 10 | 7 | 10 | 13,80671 |
| 175 | 10 | 9 | 8 | 5 | 9 | 9 | 13,67824 |
| 181 | 10 | 5 | 3 | 10 | 6 | 5 | 12,69546 |
| 4 | 8 | 8 | 9 | 5 | 0 | 3 | 12,25247 |
| 13 | 10 | 3 | 2 | 4 | 3 | 1 | 11,58159 |
| 26 | 8 | 1 | 1 | 7 | 6 | 8 | 11,46240 |
| 162 | 5 | 7 | 2 | 3 | 3 | 2 | 11,39374 |
| 188 | 8 | 3 | 6 | 7 | 3 | 6 | 11,37311 |
| 22 | 2 | 2 | 2 | 5 | 4 | 0 | 11,31122 |

Appendix VI: Discriminate Validity

1) Data in Peru

a. Component Matrix

| | Component | | |
|----------------------|-----------|-------|-------|
| | 1 | 2 | 3 |
| Desire | ,049 | ,281 | ,954 |
| Purchase Intention 1 | -,191 | ,914 | ,096 |
| Purchase Intention 2 | ,002 | ,883 | ,285 |
| Task Difficulty 1 | ,905 | -,107 | -,073 |
| Task Difficulty 2 | ,947 | ,015 | ,106 |
| Task Difficulty 3 | ,901 | -,153 | ,046 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

b. Correlation Matrix

| | | Desire | Purchase Intention 1 | Purchase Intention 2 | Task Difficulty 1 | Task Difficulty 2 | Task Difficulty 3 |
|-----------------|----------------|--------|----------------------|----------------------|-------------------|-------------------|-------------------|
| Correlation | Desire | 1,000 | ,360 | ,496 | -,033 | ,146 | ,034 |
| | Purchase Int 1 | ,360 | 1,000 | ,706 | -,298 | -,143 | -,278 |
| | Purchase Int 2 | ,496 | ,706 | 1,000 | -,098 | ,017 | -,132 |
| | Task Diff 1 | -,033 | -,298 | -,098 | 1,000 | ,795 | ,714 |
| | Task Diff 2 | ,146 | -,143 | ,017 | ,795 | 1,000 | ,816 |
| | Task Diff 3 | ,034 | -,278 | -,132 | ,714 | ,816 | 1,000 |
| Sig. (1-tailed) | Desire | | ,000 | ,000 | ,375 | ,080 | ,372 |
| | Purchase Int 1 | ,000 | | ,000 | ,002 | ,084 | ,003 |
| | Purchase Int 2 | ,000 | ,000 | | ,173 | ,434 | ,102 |
| | Task Diff 1 | ,375 | ,002 | ,173 | | ,000 | ,000 |
| | Task Diff 2 | ,080 | ,084 | ,434 | ,000 | | ,000 |
| | Task Diff 3 | ,372 | ,003 | ,102 | ,000 | ,000 | |

2) Data in China

a. Component Matrix

| | Component | | |
|---------------------|-----------|-------|-------|
| | 1 | 2 | 3 |
| Desire | -,097 | ,530 | ,770 |
| Purchase Intention1 | -,082 | ,966 | ,137 |
| Purchase Intention2 | -,092 | ,941 | ,231 |
| Difficult Task1 | ,966 | -,095 | -,054 |
| Difficult Task2 | ,976 | -,063 | -,065 |
| Difficult Task3 | ,974 | -,083 | -,023 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

b. Correlation Matrix

| | | Desire | Purchase Intention1 | Purchase Intention2 | Difficult Task1 | Difficult Task2 | Difficult Task3 |
|-----------------|-----------------|--------|---------------------|---------------------|-----------------|-----------------|-----------------|
| Correlation | Desire | 1,000 | ,728 | ,771 | -,194 | -,182 | -,166 |
| | Purchase Int 1 | ,728 | 1,000 | ,901 | -,179 | -,149 | -,164 |
| | Purchase Int 2 | ,771 | ,901 | 1,000 | -,190 | -,168 | -,170 |
| | Difficult Task1 | -,194 | -,179 | -,190 | 1,000 | ,927 | ,919 |
| | Difficult Task2 | -,182 | -,149 | -,168 | ,927 | 1,000 | ,942 |
| | Difficult Task3 | -,166 | -,164 | -,170 | ,919 | ,942 | 1,000 |
| Sig. (1-tailed) | Desire | | ,000 | ,000 | ,004 | ,006 | ,011 |
| | Purchase Int 1 | ,000 | | ,000 | ,007 | ,020 | ,012 |
| | Purchase Int 2 | ,000 | ,000 | | ,004 | ,011 | ,010 |
| | Difficult Task1 | ,004 | ,007 | ,004 | | ,000 | ,000 |
| | Difficult Task2 | ,006 | ,020 | ,011 | ,000 | | ,000 |
| | Difficult Task3 | ,011 | ,012 | ,010 | ,000 | ,000 | |

3) Data in France

a. Component Matrix

| | Component | | |
|----------------------|-----------|-------|-------|
| | 1 | 2 | 3 |
| Desire | ,030 | ,556 | ,830 |
| Purchase Intention 1 | ,019 | ,951 | ,177 |
| Purchase Intention 2 | ,002 | ,926 | ,254 |
| Task Difficulty 1 | ,938 | ,010 | -,008 |
| Task Difficulty 2 | ,964 | -,013 | ,015 |
| Task Difficulty 3 | ,957 | ,037 | ,036 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

b. Correlation Matrix

| | | Desire | Purchase Intention1 | Purchase Intention2 | Task Difficulty 1 | Task Difficulty 2 | Task Difficulty 3 |
|-----------------|-------------------|--------|---------------------|---------------------|-------------------|-------------------|-------------------|
| Correlation | Desire | 1,000 | ,684 | ,717 | ,034 | ,032 | ,074 |
| | Purchase Int 1 | ,684 | 1,000 | ,856 | ,032 | ,011 | ,050 |
| | Purchase Int 2 | ,717 | ,856 | 1,000 | ,000 | -,006 | ,056 |
| | Task Difficulty 1 | ,034 | ,032 | ,000 | 1,000 | ,852 | ,833 |
| | Task Difficulty 2 | ,032 | ,011 | -,006 | ,852 | 1,000 | ,903 |
| | Task Difficulty 3 | ,074 | ,050 | ,056 | ,833 | ,903 | 1,000 |
| Sig. (1-tailed) | Desire | | ,000 | ,000 | ,335 | ,341 | ,173 |
| | Purchase Int 1 | ,000 | | ,000 | ,343 | ,442 | ,261 |
| | Purchase Int 2 | ,000 | ,000 | | ,499 | ,472 | ,238 |
| | Task Difficulty 1 | ,335 | ,343 | ,499 | | ,000 | ,000 |
| | Task Difficulty 2 | ,341 | ,442 | ,472 | ,000 | | ,000 |
| | Task Difficulty 3 | ,173 | ,261 | ,238 | ,000 | ,000 | |

RESUME EN FRANCAIS

INTRODUCTION

Imaginez une publicité de chocolats ou de biscuits qui vous montre une expérience de consommation dans le but de vous vanter les attributs gratifiants de ces produits. Ensuite, la publicité vous demande de vous souvenir de la dernière fois que vous avez consommé ce produit. Comment êtes-vous censé vous rappeler de vos expériences de consommation passées ? Quel sera l'impact de ce rappel sur votre désir de consommation ? Maintenant, imaginez qu'il vous est demandé de vous souvenir des trois dernières fois que vous avez consommé ce produit. Pouvez-vous vous en rappeler facilement ? Comment votre désir de consommation serait alors influencé par la difficulté de cette tâche ? Quelles conditions pourraient avoir un impact sur la relation entre la difficulté de rappel (*difficulty of recall*) et le désir de consommation ? Dans notre recherche, nous nous intéressons à l'étude la construction du désir par le rappel des expériences passées.

Le désir est le moteur de la motivation humaine. Le désir est la source de notre énergie de vie (Lacan, 1992). Que ce soit pour la nourriture, les boissons, l'amour, la gloire, le lien social, le statut ou la paix dans le monde, les désirs façonnent la vie quotidienne des individus. En marketing, le désir pour un produit est stimulé par la publicité qui tente de donner aux acheteurs un sens de vouloir (Falk, 1994). Le désir peut être créé en exclamant, par exemple, « portez-vous toujours cette vieille veste? » ou en associant le produit à des attributs gratifiants, par exemple, en montrant une célébrité ou des modèles attrayants qui utilisent le produit. Dans le commerce de détail, les commerçants tentent d'accroître le désir de l'acheteur en mettant en valeur l'attractivité du produit, par exemple en offrant des échantillons de parfums, de bijoux ou de maquillage dans les magasins. En résumé, susciter les désirs des consommateurs est l'un des principaux objectifs du marketing afin d'augmenter les ventes. Le désir de posséder et d'utiliser des produits ainsi que de vivre une expérience de consommation est au cœur du comportement des consommateurs (Dholakia, 2015).

La notion de désir est parmi les concepts qui sont fondamentaux pour l'existence humaine et par conséquent il a été longuement discuté. En philosophie, le désir a été examiné par les philosophes les plus connus tels que Platon, Épicure, Descartes, Spinoza, etc. Dans le domaine des sciences, la revue de la littérature nous montre que le désir a été discuté dans ses divers aspects distinctifs. Par exemple, la dimension psychologique versus celle physiologique, l'aspect cognitif versus l'affectif, l'aspect conscient vs l'inconscient, etc. En considérant ces différentes propositions conceptuelles dans la littérature, nous définissons le désir comme un état cognitif (psychologique) conscient et contrôlable, qui motive une personne à réagir à un stimulus (objet, personne ou expérience) qui est supposé être affectivement gratifiant (Kavanagh, Andrade et Mai, 2005 ; Papies et Barsalou, 2015). Le désir est généré par le sentiment de déficit d'une expérience gratifiante attendue (Kavanagh, Andrade et Mai, 2005). Les recherches précédentes sur la façon de persuader le choix du consommateur se sont principalement focalisées sur les préférences, les attitudes et la satisfaction. Un aspect du désir qui suscite notre intérêt concerne son degré élevé de volatilité ; le désir peut être totalement contextuel et peut dépendre largement de l'imagerie créée par les individus, c'est-à-dire les représentations que se font les individus des objets. Le désir est un état cognitif qui apparaît entre l'image de consommation et leurs contextes situationnels (Belk, Ger et Askegaard, 2003).

Les études empiriques en marketing sur le désir se sont focalisées sur le *self-control* et ont démontré que le désir pour un produit diminue plus rapidement avec le temps pour les consommateurs qui font preuve de davantage de *self-control* (Dholakia et al., 2006 ; Redden et Haws, 2013). Il en est de même lorsque, quand survient le désir, l'individu l'expérimente et y résiste avec une attention portée sur la promotion plutôt que sur la prévention (voir la Théorie du *Regulatory Focus*, Higgins, 2000). D'autres études se sont concentrées sur la relation entre la durée de non-consommation et le désir. Dai et Fishbach (2014) ont démontré que le désir pour un produit augmente lorsque la durée de non-consommation est longue et

qu'il existe une absence de produits substituts. Cependant, le désir diminue en présence de produits de substitution saillants. Enfin, des réponses affectives (par exemple, le plaisir, l'inconfort ou la culpabilité) et cognitives (par exemple, le contrôle) qui accompagnent l'expérience de désir ont également été étudiées (Boujbel et d'Astous, 2015). Malgré ces recherches, aucune étude n'a été faite sur la façon dont le désir peut être influencé par le rappel des expériences passées, que ce rappel mobilise le traitement systématique de l'information ou qu'il soit fait par heuristique. Le traitement systématique de l'information fait référence à un rappel élaboré, conscient des expériences passées ; alors que le traitement heuristique de l'information correspond à un rappel inconscient, rapide et inférentiel des expériences passées. Le traitement systématique-heuristique de l'information appartient à la théorie générale de la *Dual-Process Theory* (Chaiken et Trope, 1999). Les expériences passées font référence aux expériences gratifiantes de consommation.

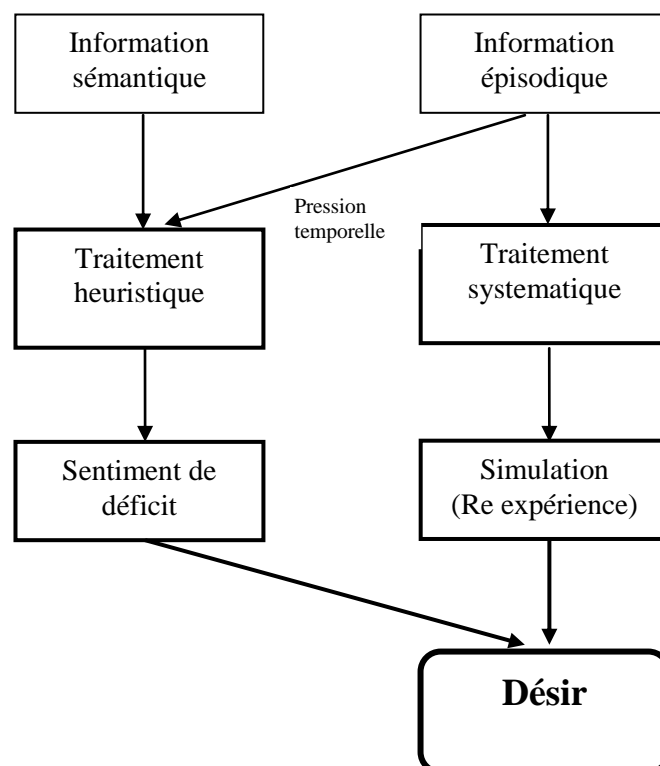
La relation de causalité entre le traitement systématique des expériences passées pendant le rappel et le désir pourrait être expliquée par des théories telles que la théorie intrusive élaborée du désir de Kavanagh, Andrade et Mai (2005) et la théorie « grounded » de Papies et Barsalou (2015). Le rappel systématique des expériences passées pourrait aider les consommateurs à simuler des expériences gratifiantes à travers la vivacité et la richesse de l'imagerie mentale. Cependant, le désir peut aussi être influencé par le traitement heuristique des expériences passées. L'utilisation des inférences lors du rappel des expériences passées pourrait être un facteur influent dans le déclenchement du désir. Étant donné que le désir dépend de la sensation de déficit (Kavanagh, Andrade et Mai, 2005), nous proposons que la difficulté de la tâche de rappel des expériences passées aurait un impact sur le désir à travers l'inférence de difficulté de rappel (Schwarz et al, 1991 ; Schwarz, 2004 ; Tversky et Kaneman, 1973). Par exemple, s'il est difficile pour un individu de se rappeler ses consommations passées d'un produit (produit qu'il préfère et achète fréquemment), il pensera qu'il n'en a pas beaucoup consommé. Dès lors qu'il aura un sentiment de ne pas avoir

beaucoup consommé (sentiment de déficit), l'individu sentira le désir d'en consommer. L'inférence de difficulté de rappel, l'inférence d'accessibilité, l'heuristique de disponibilité ou l'inférence de « facilité de rappel » sont pour nous des termes interchangeables.

L'inférence de difficulté de rappel, un sujet qui a été largement étudié en sciences sociales, est décrite comme le raccourci mental qui repose sur la difficulté d'accès à l'information lorsque les individus évaluent ou jugent un objet, une personne ou une situation. Cette inférence de difficulté de rappel est basée sur l'idée que s'il y a une difficulté qui survient au moment de se rappeler de quelque chose, celle-ci ne doit pas être importante ou fréquente (Aarts et Dijksterhuis 1999 ; Schwarz et al, 1991 ; Schwarz, 2004 ; Tversky et Kahneman, 1973 ; Wanke et al., 2003). Dans le cas du rappel des expériences passées, dès lors que les individus expérimentent une difficulté de rappel ils doivent penser que ces expériences ne sont pas nombreuses. Des études empiriques en marketing ont démontré que l'inférence de difficulté de rappel est utilisée par les consommateurs et qu'elle a un effet sur l'évaluation du produit. Cet effet peut être négatif, par exemple, la difficulté à se rappeler les attributs positifs d'un certain produit diminue l'attrait de ce produit (Menon et Raghurir, 2003). De même, la difficulté de choisir un produit augmente la possibilité de différer l'achat d'un produit (Novemsky et al., 2007). En outre, la difficulté de traiter des attributs expérientiels réduit l'évaluation positive du produit (Brakus, Schmitt, Zhang, 2014). Cependant, l'utilisation de l'inférence de difficulté de rappel peut également avoir un impact positif sur l'évaluation d'un produit. Par exemple, la difficulté métacognitive augmente l'attractivité des produits en les rendant exclusifs ou uniques (Pocheptsova, Labroo et Dhar, 2010).

Dans notre recherche, nous nous sommes intéressés à l'influence de la difficulté de rappel des consommations passées d'un produit préféré sur le désir de consommer ce produit. Nous cherchons à savoir comment le type de traitement d'informations (sémantique et épisodique) pourrait changer la relation entre la difficulté de rappel et le désir de consommation. L'information épisodique représente la connaissance que les consommateurs ont des

expériences passées, y compris les émotions et les sensations liées à ces expériences. L'information sémantique est une information d'ordre général sur une entité ou une expérience qui est détachée d'épisodes spécifiques (Tulving, 1972 ; 1983 ; 2002). Le traitement de l'information sémantique (par exemple, une date ou un lieu) des expériences passées pourrait influencer de manières différentes, par rapport au traitement de l'information épisodique, le sentiment de déficit et le désir de consommation. Par exemple, si l'individu se rappelle le moment ou le lieu (informations sémantiques) de consommation d'un produit, il pourrait être directement influencé par la difficulté de rappel. Cependant, s'il se rappelle les expériences passées épisodiques, il pourrait être influencé par les émotions et à son tour celles-ci pourraient influencer la relation entre la difficulté de rappel et le désir de consommation. Nous proposons que le désir de consommation est influencé par la façon dont l'individu se rappelle des expériences passées (traitement systématique et heuristique) et par le type d'information (sémantique ou épisodique) rappelée ; comme le montre la figure ci-dessous :



Nous nous sommes également intéressés à certaines conditions qui peuvent influencer la relation entre la difficulté de rappel et le désir de consommation. Premièrement, nous étudions l'effet de la difficulté de rappel des expériences passées sur le désir de consommation lorsque cette difficulté est attendue. L'intérêt de l'analyse de cette relation réside dans le fait que l'inférence de difficulté de rappel dépend des attentes (Whitlessea et Williams, 2000). Cela signifie que les personnes qui attendent que la tâche de rappel soit difficile ne concluent pas que cette difficulté est due à une absence de consommation, mais que la tâche de rappel elle-même est difficile. Deuxièmement, vu que la contrainte de temps est une variable exogène qui influence de façon permanente la prise de décision, nous nous sommes également intéressés à l'analyse de l'effet modérateur de la pression temporelle sur la relation entre la difficulté de rappel et le désir de consommation. Sous la pression du temps, les consommateurs ont une capacité limitée pour le traitement de l'information et par conséquent, ils ont tendance à utiliser des inférences dans leurs choix. Par exemple, les consommateurs sont plus susceptibles d'inférer la relation entre le prix élevé et la haute qualité d'un produit quand ils sont sous la pression du temps (Suri et Monroe, 2003). Nous pouvons donc poser les questions de recherche suivantes :

QR1 : Quel est le rôle du type d'information (sémantique versus épisodique) sur la relation entre la difficulté à se rappeler les consommations passées d'un produit et le désir de consommer (et l'intention d'achat) ce produit?

QR2: Comment la relation entre la difficulté à se rappeler les consommations passées et le désir (et l'intention d'achat) est influencée par la difficulté attendue de la tâche de rappel?

QR3: Comment la relation entre la difficulté à se rappeler les consommations passées et le désir (et l'intention d'achat) est influencée par la pression du temps?

Dans cette recherche, nous allons démontrer les effets de la difficulté de rappel sur le désir de consommation dans des conditions différentes. Premièrement, lorsque les individus se

rappellent l'information sémantique des expériences gratifiantes passées, ils sont influencés par le traitement heuristique et utilisent l'inférence de difficulté de rappel. Dans cette situation, la difficulté de rappel a un effet positif sur le désir de consommation (les individus sont influencés par le sentiment de déficit). Néanmoins, lorsque cette difficulté de rappel est attendue, cet effet n'existe pas. Deuxièmement, lorsque les individus traitent l'information épisodique des expériences gratifiantes passées, ils ne sont pas influencés par le traitement heuristique et n'utilisent pas l'inférence de difficulté de rappel. La difficulté de rappel n'a pas d'impact sur le désir de consommation (les individus sont influencés par la simulation des expériences gratifiantes passées). Cependant, lorsque les individus sont sous la pression du temps, les consommateurs sont influencés par le traitement heuristique et utilisent l'inférence de difficulté de rappel. Cette difficulté a un effet positif sur le désir de consommation (les individus sont influencés par le sentiment de déficit). Enfin, dans tous les cas, le désir a un effet positif sur l'intention d'achat. Notre recherche contribue aux connaissances actuelles par la démonstration que la difficulté de se rappeler des expériences gratifiantes passées, joue un rôle dans le désir de consommation.

HYPOTHÈSES

Le rappel d'information sémantique des expériences passées n'a pas d'incidence directe sur le désir en raison du fait qu'il ne stimule pas de simulations d'expériences gratifiantes. Les individus ne sont pas influencés par des facteurs épisodiques. Cependant, le désir de consommation pourrait être influencé par le traitement heuristique de l'information sémantique. La difficulté d'accès à l'information dans notre mémoire peut faire que les individus utilisent des inférences afin de trouver une explication à cette difficulté (Schwarz et al., 1991). Les individus assigneraient inconsciemment et automatiquement la difficulté de rappel au fait de ne pas avoir beaucoup consommé (Menon et Raghurir, 2003). Les

consommateurs utilisent l'inférence de difficulté de rappel pour estimer leur consommations passées : « il est difficile de me rappeler, donc je n'en ai pas beaucoup consommé » (Schwarz et al, 1991 ; Schwarz, 2004 ; Tversky et Kahneman, 1973 ; Whittlesea, 1993). Étant donné que le désir de consommation dépend du sentiment de déficit (Kavanagh, Andrade et Mai, 2005), si les consommateurs pensent qu'ils n'ont pas beaucoup consommé, alors ils sentiront plus de désir pour consommer. De cette façon, en accord avec des études précédentes, le désir peut être construit sur la perception des consommations passées (Galak et al, 2009 ; Redden et Galak, 2013 ; Wansink et al., 2005). Dans le cas de l'intention d'achat, la tentative d'acheter un produit spécifique pourrait également être influencée par le sentiment de déficit perçu par les individus quand ils constatent que le rappel des consommations passées est difficile. Sur ces arguments, nous proposons l'hypothèse suivante:

H1a: La difficulté à se rappeler les consommations passées d'un produit préféré a un effet positif sur le désir de consommer ce produit, lorsque les consommateurs se rappellent l'information sémantique de ces consommations et les consommateurs ne sont pas sous la pression du temps.

H1b: La difficulté à se rappeler les consommations passées d'un produit préféré a un effet positif sur l'intention d'achat de ce produit, lorsque les consommateurs se rappellent l'information sémantique de ces consommations et les consommateurs ne sont pas sous la pression du temps.

Une condition importante pour qu'un individu mobilise l'inférence de difficulté : « il est difficile de me rappeler, donc je n'en ai pas beaucoup consommé » (Schwarz et al., 1991 ; Tversky et Kahneman, 1973 ; Whittlesea, 1993) est celle qu'il doit y avoir une différence entre la difficulté actuelle de traitement de l'information et celle qui est attendue (Whittlesea et Williams, 1998 ; 2000 ; 2001a ; 2001b). Pour avoir la possibilité d'utiliser des inférences, il doit y avoir une discordance entre ce que nous attendons de l'expérience et ce que nous vivons

réellement. Par exemple, si un consommateur sait déjà que trouver dix attributs positifs d'un produit est difficile, il n'attribuera alors pas cette difficulté au fait que le produit n'a pas beaucoup d'attributs positifs. Ainsi, le produit sera toujours considéré comme de bonne qualité à chaque fois que cette inférence n'est pas appliquée (étude 2, Menon et Raghurir, 2003). De même, si un consommateur est confronté à un choix difficile (prix et qualité) parmi trois options, il n'aura pas tendance à utiliser l'inférence qui le conduirait à choisir l'option du milieu (l'effet de compromis, Simonson, 1989) lorsqu'il sait que ce choix a également été difficile pour les autres consommateurs (étude 4, Novemsky et al., 2007). Sur cet argument, nous proposons les hypothèses suivantes:

H2a: Lorsque les consommateurs se rappellent l'information sémantique de ses consommations passées et ne sont pas sous la pression du temps, le désir de consommer un produit préféré est plus élevé dans le cas de la difficulté de rappel inattendue, plutôt qu'attendue.

H2b: Lorsque les consommateurs se rappellent l'information sémantique de ses consommations passées et ne sont pas sous la pression du temps, l'intention d'achat d'un produit préféré est plus élevée dans le cas de la difficulté de rappel est inattendue, plutôt qu'attendue.

Si l'on demande aux consommateurs de se rappeler l'information épisodique de leurs expériences passées, le traitement systématique de l'information épisodique ferait que les individus seraient influencés par des émotions basées sur ces expériences gratifiantes rappelées (Kavanagh, Andrade et Mai, 2005). Dans ce sens, ils seraient motivés pour réaliser l'effort de se rappeler les expériences passées, et par conséquent ils ne seraient pas influencés par l'inférence de difficulté de rappel. Si les individus ne sont pas influencés par la difficulté de rappel, alors ils ne sentent pas un déficit de consommation, et par conséquent, le désir de consommation ne serait pas affecté par un tel déficit. Sur cet argument, nous proposons:

H3a: L'effet de la difficulté à se rappeler les consommations passées d'un produit préféré sur le désir de consommer ce produit n'est pas répliqué, lorsque les consommateurs se rappellent l'information épisodique de ces consommations et les consommateurs ne sont pas sous la pression du temps.

H3b: L'effet de la difficulté à se rappeler les consommations passées d'un produit préféré sur l'intention d'achat de ce produit n'est pas répliqué, lorsque les consommateurs se rappellent l'information épisodique de ces consommations et les consommateurs ne sont pas sous la pression du temps.

La manière dont l'information est traitée peut aussi dépendre de la pression du temps (Payne, Bettman et Johnson, 1988; Suri et Monroe, 2003). Lorsque la quantité de ressources nécessaires pour prendre une décision est supérieure aux ressources disponibles, le consommateur pourrait utiliser des inférences (Mantel et Kellaris, 2003). Par exemple, si un consommateur est poussé par le temps à décider d'acheter ou de ne pas acheter une perceuse à très bon marché, il l'achèterait mais sans avoir aucune idée si un jour il l'utilisera. Le consommateur raisonnerait uniquement en prenant en compte le prix très bas de cette perceuse. Pour ces raisons, nous suggérons que, sous la pression du temps, les individus ont tendance à utiliser l'inférence de difficulté de rappel « il est difficile de me rappeler, donc je n'en ai pas beaucoup consommé » (Schwarz et al., 1991; Tversky et Kahneman, 1973 ; Whittlesea, 1993) dès lors que le rappel d'expériences passées est une tâche difficile. Sur la base de ce qui précède, nous proposons les hypothèses suivantes:

H4a: La difficulté à se rappeler les consommations passées et la pression temporelle interagissent pour influencer positivement le désir de consommer le produit préféré, lorsque les consommateurs se rappellent l'information épisodique de ces consommations.

H4b: La difficulté à se rappeler les consommations passées et la pression temporelle interagissent pour influencer positivement le désir de consommer le produit préféré, lorsque les consommateurs se rappellent l'information épisodique de ces consommations.

MÉTHODE ET RÉSULTATS

Présentation des expérimentations

Nous procédons au test des hypothèses présentées ci-dessus au moyen de trois expérimentations. Le but de la première expérimentation est de valider l'effet de la difficulté de rappel des consommations passées sur le désir de consommation (H1a, H1b) et de valider l'effet de la difficulté attendue de la tâche de rappel (H2a, H2b) lorsque les consommateurs se rappellent le moment auquel ils ont consommé le produit pour les dernières fois (informations sémantiques). En outre, nous vérifions l'effet du désir de consommation sur l'intention d'achat. La deuxième expérimentation sert à valider la proposition selon laquelle la difficulté de rappel des consommations passées n'influence pas le désir de consommation (H3a, H3b) pour des produits et des activités de loisirs, lorsque les consommateurs se rappellent leurs expériences de consommation passées (informations épisodiques). Dans la troisième expérimentation, nous validons à nouveau la proposition selon laquelle la difficulté de rappel n'a pas d'influence sur le désir de consommation. Néanmoins, sous la pression du temps, cet effet existe : la difficulté de rappel influence le désir de consommation et l'intention d'achat. Enfin, nous validons l'effet d'interaction entre la difficulté à se rappeler les consommations passées et la pression temporelle sur le désir de consommer et l'intention d'achat d'un produit préféré (H4a, H4b).

Expérimentation 1:

158 étudiants d'une université à Lima, Pérou, ont participé à cette expérience (129 hommes, 28 femmes; 88 personnes âgées de 18 à 25 ans et 64 entre 25 et 35 ans, et 4 ont plus de 35 ans). Nous avons utilisé une méthode de sondage en ligne pour la collecte de données. Nous avons utilisé un produit alimentaire avec des caractéristiques principalement hédoniques et avec un taux d'utilisation répétée. Nous avons choisi des boissons rafraîchissantes. La liste des boissons présentées aux répondants contenait les boissons gazeuses les plus populaires au Pérou, dont Coca-Cola, Pepsi-Cola et autres marques locales.

Procédure

Nous avons eu trois conditions : la facilité de rappel (50 répondants), difficulté de rappel (54 répondants) et la difficulté de rappel avec attribution (54 répondants). Pour manipuler la difficulté de rappel, nous avons demandé au premier groupe expérimental : « Essayez de vous rappeler la dernière fois que vous avez consommé cette boisson ». Mais afin que le consommateur se focalise sur la date de la consommation (information sémantique) et non sur l'expérience en elle-même (information épisodique), nous avons ajouté, immédiatement à l'injonction précédente, la question « Quand avez-vous consommé cette boisson pour la dernière fois? ». De même, nous avons demandé au deuxième groupe : « Essayez de vous rappeler les trois (3) dernières fois que vous avez consommé cette boisson » et la(es) question(s) « Quand avez-vous consommé cette boisson pour la dernière [avant-dernier, pré-avant-dernier]² fois ? ». Enfin, pour le troisième groupe, nous avons utilisé la technique de la « desattribution des sentiments » (Schwarz, 1991 ; Schwarz et Clore, 2007) qui montre l'effet de la difficulté attendue. Nous avons ajouté la phrase suivante pour les individus sous la condition de difficulté : « Vous savez, se rappeler les trois (3) dernières fois que vous avez consommé cette boisson peut être une tâche assez difficile », afin qu'ils associent la difficulté de rappel à la tâche et non au fait qu'ils n'ont pas beaucoup consommé la boisson. De cette

² Avant-dernier pour la deuxième question et pré-avant-dernier pour la troisième question

manière, nous avons créé trois questionnaires, chacun avec des conditions différentes. On a demandé aux participants de choisir parmi une liste de boissons celles qu'ils aiment le plus, afin de fournir un état hédonique similaire aux consommateurs. Puis, nous avons interrogé les participants sur leur désir de consommer à nouveau la boisson et sur leur intention d'achat. Enfin, nous avons posé des questions sur la difficulté de rappel, la fréquence de consommation et la préférence pour la boisson afin de contrôler les conditions.

Mesures

En ce qui concerne le désir, il a été mesuré par la question suivante : « Aimeriez-vous boire cette boisson toute de suite ? » (Redden et Galak, 2013) sur une échelle de 11 points (0 = pas du tout; 10 = beaucoup). Pour l'intention d'achat, nous avons utilisé l'échelle de Dodds et al. (1991) et l'avons adapté à notre contexte : « Quelle serait la probabilité que vous achetiez cette boisson, si vous en aviez l'opportunité à ce moment précis ? » et « Quelle serait votre intention d'acheter cette boisson, si vous en aviez l'opportunité à ce moment précis ? » sur une échelle de 11 points (0 = pas du tout; 10 = beaucoup). Afin d'assurer que la difficulté de rappel a une différence significative, les participants ont évalué la difficulté de la tâche de rappel avec trois questions: « Vous avez trouvé cette tâche de rappel difficile ? » ; « Cela a vous demandé beaucoup d'efforts ? » ; « Cela vous a obligé à beaucoup réfléchir ? », sur une échelle de 11 points (Menon et al., 1995) (0 = pas du tout d'accord; 10 = tout à fait d'accord). Pour vérifier que les individus ont le même niveau de préférence du produit, nous avons posé la question suivante : « A quel point aimez-vous cette boisson ? », sur une échelle de 11 points (0 = pas du tout ; 10 = beaucoup) et enfin, nous avons demandé à propos de la fréquence : « Avec quelle fréquence consommez-vous cette boisson par mois ? ».

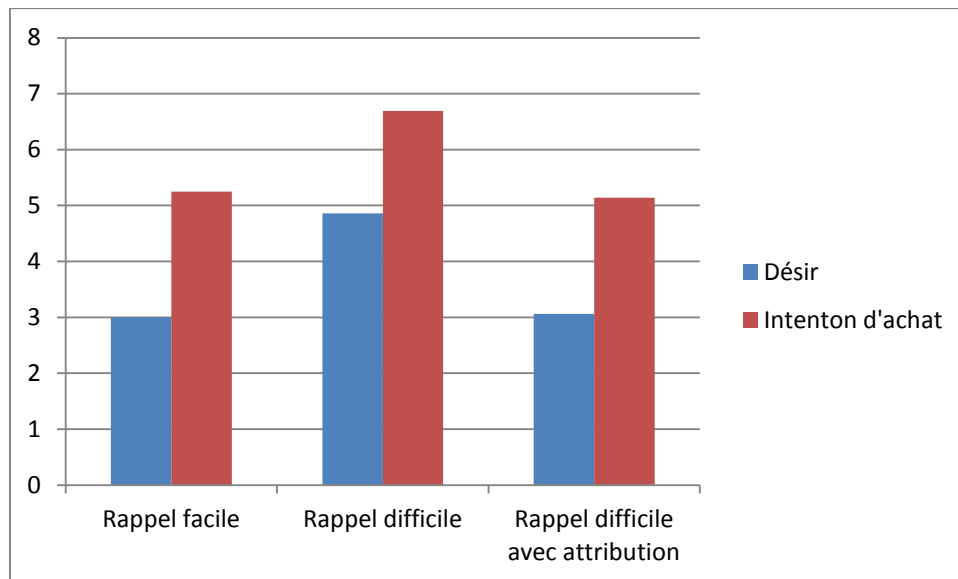
Résultats et discussion

Tout d'abord, nous avons uniquement pris en compte les individus avec une fréquence de consommation de plus de deux fois par mois et une préférence de plus de quatre fois, car la

condition de contrôle de cette expérimentation était d'avoir des répondants avec une fréquence de consommation relativement élevée et les consommateurs doivent avoir une préférence aussi élevée de la boisson choisie. De cette façon, nous avons eu 30, 29 et 32 répondants par groupe, respectivement. Nous avons également validé les échelles utilisées dans les questionnaires. L'échelle de la difficulté de rappel et l'échelle de l'intention d'achat ont un coefficient alpha de Cronbach significatif (0.892 ; 0.882). Ensuite, nous avons fait une vérification de la manipulation ($M1 = 2.56$, $SD = 1.34$ *versus* $M2 = 3.5$, $SD = 1.56$), $t(57) = 2.59$, $p = .012 < 0.05$. Enfin, pour tester notre hypothèse 1a et 1b, nous avons obtenu que plus l'individu a des difficultés à se rappeler des consommations passées, plus il désire consommer à nouveau le produit ($M1 = 3.00$, $SD = 2.91$ *versus* $M2 = 4.86$), $t(88) = 2.249$, $p = 0.027 < .05$, $n^2 = 5.4\%$ et a l'intention de répéter l'achat ($M1 = 5.25$, $SD = 2.51$ *versus* $M2 = 6.69$; $SD = 2.43$), $t(88) = 2.078$, $p = 0.04 < 0.05$.

Afin de tester l'hypothèse 2a et 2b au sein de l'effet d'attribution, nous avons comparé deux conditions : la difficulté de rappel sans attribution *versus* la difficulté de rappel avec attribution. Nous avons obtenu pour le désir : $M2 = 4.86$, $SD = 3.23$ *versus* $M3 = 3.06$, $SD = 3.32$, $t(88) = 2.208$, $p = .03 < 0.05$, $n^2 = 5.2\%$ et pour l'intention d'achat : $M2 = 6.69$, $SD = 2.43$ *versus* $M3 = 5.14$, $SD = 2.96$, $t(68) = 2.25$, $p = 0.025$. En effet, il y a une différence entre les deux conditions, ce qui nous permet de conclure que la difficulté attendue de la tâche de rappel affecte la relation entre difficulté de rappel et le désir de consommation, ainsi que la relation entre la difficulté de rappel et l'intention d'achat. Nous avons validé le traitement heuristique de l'information sémantique. Enfin, nous avons régressé l'intention d'achat sur le désir de consommation et nous avons démontré sa relation, $\beta = 0.520$, $t(89) = 5.742$, $p < 0.05$, $R^2 = 26.2\%$.

Dans l'expérimentation suivante, nous analysons l'effet de la difficulté de rappel sur le désir lorsque les consommateurs se sont rappelés l'information épisodique des expériences passées.



Expérimentation 2:

198 étudiants ont participé à une étude menée en Chine (68 hommes, 130 femmes, âgés de 18 à 35 ans). Cette étude a utilisé un plan expérimental de type 2 (difficulté de rappel : facile rappel *versus* difficile rappel) x 2 (type d'offre : activités de loisirs *versus* produits hédoniques). Nous avons utilisé une méthode de sondage en ligne et suivi la procédure d'administration expliquée dans l'expérimentation précédente. Toutefois, contrairement à l'expérimentation passée, ici les participants ont été exposés à deux types de situations. D'abord, ils ont dû choisir entre six activités de loisirs : un restaurant, un club, un concert, un théâtre et un karaoké ; et six produits : des chips, des bonbons, du chocolat, des boissons rafraichissantes, des abricots secs et des noix. Pour chaque situation, les participants ont choisi leur activité de loisir ou leur produit préféré qu'ils consomment régulièrement. Dans ce cas, aucune marque spécifique n'a été utilisée.

Procédure

Pour manipuler la difficulté de rappel des expériences passées, nous avons demandé aux groupes expérimentaux de se rappeler avec attention la dernière fois qu'ils ont consommé le produit choisi ou réalisé l'activité de loisir choisie, pour la condition de rappel facile, et de se

rappeler les trois dernières fois pour la condition de rappel difficile. Contrairement à la première expérimentation, nous avons seulement posé ces questions afin de conduire les consommateurs à se concentrer sur l'information épisodique de leurs expériences passées. Nous avons créé quatre questionnaires, chacun avec des conditions différentes. Le choix de produits ou de loisirs et la procédure était similaire à la première expérimentation.

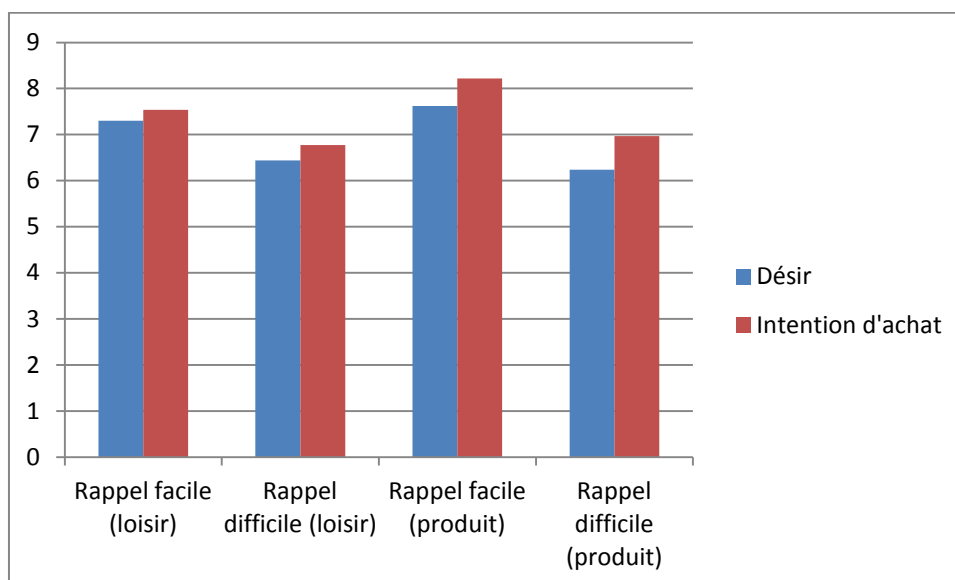
Mesures

Nous avons mesuré la difficulté de rappel, le désir de consommation, l'intention d'achat, la fréquence de consommation et la préférence pour les produits ou les activités de loisirs de la même manière que pour la première expérimentation.

Résultats et discussion

De la même manière que pour la première expérimentation, nous avons retenu les participants avec une fréquence de consommation supérieure à deux fois par mois pour les produits hédoniques. Cependant, pour les activités de loisirs, nous avons retenu qu'avec une fréquence de consommation supérieure à une fois par mois car en général les activités de loisirs comme les restaurants, le cinéma ou le karaoke sont consommé avec moins de fréquence que les produits hédonistes comme des chips, des bonbons ou une pizza. Ainsi, les consommateurs avec une préférence supérieure à 4 ont été retenus comme dans la première expérimentation. Nous avons eu enfin 33, 36, 29 et 29 répondants pour chaque groupe, respectivement. Pour valider notre hypothèse sur l'absence d'effet de la difficulté de rappel sur le désir de consommation et l'intention d'achat, nous avons testé l'égalité des moyens. Le désir de consommation est similaire pour les deux modalités : le désir lié au rappel de la dernière expérience de consommation n'est pas significativement différent ($M1 = 7.30$, $SD = 2.58$) à celui du rappel des trois dernières expériences ($M2 = 6.44$, $SD = 2.25$) pour les activités de loisirs, $t(123) = 1.483$, $p = .141 > .05$, $n^2 = 1.9\%$; H3a validée. Contrairement à nos attentes, le désir ressenti par ceux qui se sont rappelés la dernière consommation ($M3 = 7.62$, $SD = 2.08$) n'est pas similaire à ceux qui se sont rappelés les trois dernières consommations ($M4 =$

6.24, SD = 2,69) pour les produits hédoniques, $t(123) = 2.186$, $p = 0,031 < .05$, 3.7%; H3a non validée). De la même façon, l'intention d'achat est similaire pour les activités de loisirs (M1 = 7.54, SD = 2.48; M2 = 6.77, SD = 2.12, respectivement; H3b validé), mais différent pour les produits hédoniques (M3 = 8.22, SD = 1.90; M4 = 6.97, SD = 2.49, respectivement; H3b non validée). D'après les résultats, nous avons validé le traitement systématique de l'information épisodique seulement pour les activités de loisirs. Pour le cas de produits hédonistes, l'effet négatif de la difficulté de rappel sur le désir et l'intention d'achat lorsque les consommateurs se rappellent l'information épisodique des expériences passées sera expliquée dans la discussion.



Expérimentation 3:

170 étudiants ont participé à une étude menée en France (101 hommes, 69 femmes ; âge 18-25 ans). Cette étude a utilisé un plan expérimental de type 2 (difficulté de rappel: 2 rappels *versus* 6 rappels) x 2 (la pression du temps : sous pression du temps *versus* sans pression du temps). Nous avons utilisé une méthode d'enquête pour la collecte des données et l'enquête a été menée en personne. De la même façon que pour la première expérimentation, la liste des boissons présentée aux répondants contenait les boissons rafraichissantes non-alcoolisées les

plus populaires en France, dont Coca-Cola, Pepsi-Cola, Sprite, Fanta, Ice Tea et d'autres marques locales.

Procédure

Pour manipuler la difficulté de rappel des expériences passées, nous avons demandé, comme dans la deuxième expérimentation, aux groupes expérimentaux: « Rappelez-vous avec attention les deux (six) dernières fois que vous avez consommé cette boisson ». De la même façon que pour la deuxième expérimentation, nous avons seulement demandé cette question afin que les consommateurs se focalisent sur leur expérience de consommation (information épisodique). Nous avons manipulé la pression du temps en donnant aux étudiants une minute pour répondre l'ensemble de questions (page 2 et 3 de l'annexe 4) concernant le rappel facile (deux rappels), et une minute et quinze seconds concernant le rappel difficile (six rappels). Nous avons créé quatre questionnaires, chacun avec des conditions différentes. Le choix de boissons et la procédure était similaire à la première et expérimentation.

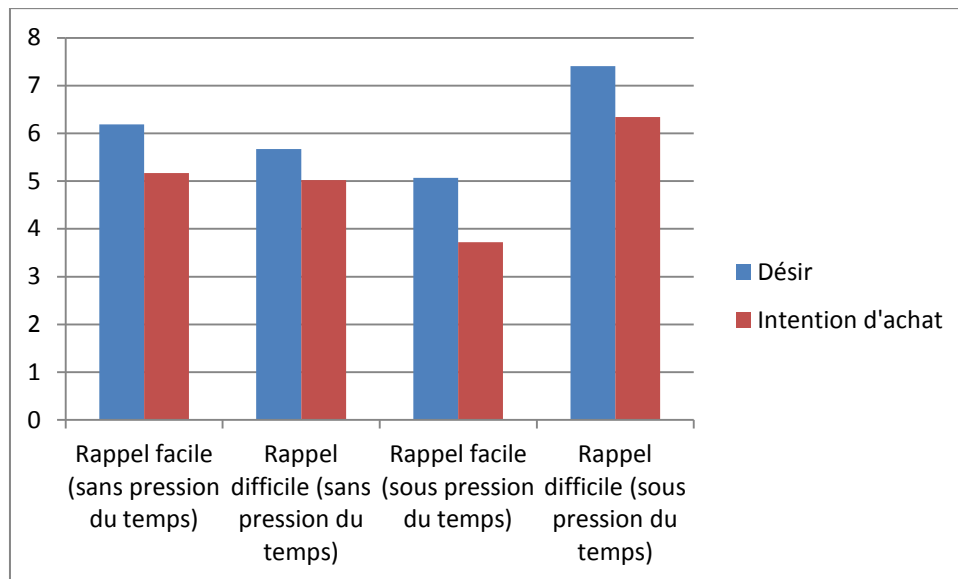
Mesures

Nous avons mesuré la difficulté de rappel, le désir de consommation, l'intention d'achat, la fréquence de consommation et la préférence de produits de la même manière que dans les expérimentations précédentes.

Résultats et discussion

Nous avons gardé les individus avec une fréquence de consommation de plus de 2 fois par mois et une préférence de plus de 4. Nous avons eu finalement 37, 39, 29 et 34 répondants pour chaque groupe, respectivement. Pour valider notre hypothèse sur l'effet de la pression du temps sur la relation entre la difficulté de rappel des consommations passées sur le désir, nous avons testé l'égalité de moyens pour chaque condition. La fiabilité des échelles a été validée : l'intention d'achat (alpha de Cronbach = 0.921) ; la difficulté de rappel (alpha de Cronbach = 0.949). Ensuite, nous avons transformé les variables latentes en manifestes. La vérification de la manipulation de la difficulté de rappel a été testé pour les deux conditions : sans pression

du temps ($M1 = 2.69$, $SD = 2.71$ *versus* $M2 = 5.03$, $SD = 2.62$), $t(74) = 3.823$, $p = .00 < 0.05$) et avec pression du temps ($M3 = 4.88$, $SD = 2.67$ *versus* $M4 = 6.43$, $SD = 2.09$), $t(61) = 2.577$, $p = .012 < .05$, $n^2 = 4.1\%$. Le désir de consommation de boissons est similaire dans la modalité de rappel des deux expériences passées ($M1 = 6.19$, $SD = 3.62$) et dans celle de rappel des six expériences passées ($M2 = 5.67$, $SD = 3.46$) pour la condition : sans pression du temps, $t(76) = .643$, $p = .522 > .05$, $n^2 = .4\%$; H3a revalidée. Cependant, le désir ressenti par ceux qui se sont rappelés les deux dernières expériences de consommation ($M3 = 5.07$, $SD = 3.40$) a été significativement plus faible que ceux qui se sont rappelés les six dernières expériences ($M4 = 7.41$, $SD = 2.57$) pour la condition : avec pression du temps, $t(65) = 3.109$, $p = .003 < .05$, $n^2 = 5.5\%$. De la même façon, l'intention d'achat est similaire lorsque les participants n'ont pas été avec pression du temps ($M1 = 5.17$, $SD = 2.96$ *versus* $M2 = 5.02$, $SD = 2.98$); $t(74) = .220$, $p = .827 > .05$, $n^2 = 0\%$, H3b revalidée, mais complètement différent lorsque les participants ont été avec pression du temps ($M3 = 3.72$, $SD = 2.83$ *versus* $M4 = 6.34$, $SD = 2.47$); $t(65) = 4.042$, $p = .00 < .05$. Afin de tester l'effet d'interaction de la pression temporelle et la difficulté de rappel sur le désir de consommer, nous avons utilisé un ANOVA factoriel. D'abord, un test de Levene nous a permis de valider l'homogénéité de variance (sig. $> .05$). Finalement, les résultats ont démontré qu'il existe effectivement un effet d'interaction entre la contrainte de temps que les consommateurs ont eu lors du rappel des consommations passées d'un produit préféré et la difficulté à se rappeler ces consommations. Cette interaction a un effet positif sur le désir, $F(1,135) = 6.467$, $p = .012 < .05$, $n^2 = 4.6\%$, H4a validée ; et l'intention d'achat, $F(1, 135) = 8.076$, $p = .005 < .05$, $n^2 = 5.6\%$, H4b validée. De cette manière, nous avons validé l'effet d'interaction entre la pression du temps et la difficulté de rappel sur le désir de consommer et l'intention d'achat. Lors d'une pression temporelle, les individus utilisent un traitement heuristique de l'information.



CONCLUSION ET DISCUSSION

1. Résumé des résultats de la recherche

Tel qu'il a été proposé, les effets du rappel des consommations passées sur le désir de consommation et sur l'intention d'achat se produisent à travers différentes directions. La difficulté de rappel a un effet positif sur le désir lorsque les consommateurs se rappellent l'information sémantique des expériences passées. Les consommateurs, en se basant sur le traitement heuristique, utilisent l'inférence de difficulté de rappel « il est difficile de me rappeler, donc je n'en ai pas beaucoup consommé » (Schwarz et al., 1991 ; Schwarz, 2004 ; Tversky et Kahneman, 1973), sentent un déficit, et par conséquent un désir de consommation. Ceci est en accord avec les études de Redden et Galak (2013). Cependant, lorsque les consommateurs se rappellent l'information épisodique des expériences passées, la difficulté de rappel n'a pas un impact sur le désir de consommation. Basés sur le traitement systématique, les consommateurs sont influencés par les émotions et les sentiments des expériences passées. De cette manière, la difficulté de rappel ne déclenche pas l'utilisation de l'inférence de difficulté de rappel. L'absence d'un effet du rappel difficile sur le désir de

consommation lorsque les consommateurs se rappellent l'information épisodique des expériences passées a été validée à deux reprises avec des types de produits différents:

- Des activités de loisirs ;
- Des boissons rafraichissantes non-alcoolisées.

Cela nous permet de répondre à notre première question (QR1) : *Quel est le rôle du type d'information (sémantique versus épisodique) dans la relation entre la difficulté de rappel d'un produit préféré et le désir de consommer (et l'intention d'achat) ce produit ?*

Une condition nécessaire pour qu'un individu utilise l'inférence de difficulté de rappel « il est difficile de me rappeler, donc je n'en ai pas beaucoup consommé » est lié à l'idée qu'il doit avoir une différence entre la difficulté réelle du traitement d'information et celle qui est attendue (Whittlesea et Williams, 1998 ; 2000 ; 2001a ; 2001b). Pour avoir la possibilité d'utiliser des inférences, il doit avoir une dissonance entre nos attentes et ceux que nous expérimentons réellement. De même, lorsque la difficulté de la tâche de rappel est attendue, les consommateurs ne sont pas influencés par l'inférence de difficulté de rappel et par conséquent la difficulté de rappel n'a pas d'effet sur le désir de consommation. Ceci est en accord avec l'étude de Menon et Raghubir (2003), dans laquelle les consommateurs utilisent des inférences lorsque le rappel des attributs positifs d'une marque est difficile. Ainsi, lorsque la difficulté de rappel est attendue, des inférences ne sont pas utilisées. Cela nous permet de répondre à la seconde question de recherche (QR2) : *Comment la relation entre la difficulté de rappel et le désir (intention d'achat) est influencée par la difficulté attendue de la tâche de rappel ?*

Lorsque les consommateurs sont sous la pression du temps et dépendent du traitement heuristique de l'information, le désir de consommer un produit est positivement influencé par la difficulté de rappel. L'inférence utilisée par les consommateurs : « il est difficile de me rappeler, donc je n'en ai pas beaucoup consommé » est activée sous la pression du temps. Les consommateurs ont tendance à traiter de manière heuristique l'information quand ils sont

contraints par le temps, comme dans l'étude de Suri et Monroe (2003) où ils démontrent que les consommateurs sont plus susceptibles d'inférer (traitement heuristique) une relation entre le prix élevé et la haute qualité des produits quand les consommateurs sont sous pression temporelle. Cela nous permet de répondre à notre troisième question de recherche (QR3) : *Comment la relation entre la difficulté de rappel et le désir (et l'intention d'achat) est influencée par la pression temporelle ?*

En outre, la manipulation de la variable difficulté de rappel et le contrôle des variables telles que la fréquence de consommation et la préférence du produit ont été réalisés avec succès, en confirmant la relation entre la difficulté de rappel, le désir de consommation et l'intention d'achat.

2. Contributions

Notre recherche a répliqué la relation entre la difficulté de rappel et le désir (Redden et Galak, 2013) lorsque les consommateurs se sont rappelés l'information sémantique des consommations passées mais non lorsque l'information épisodique a été rappelée. En général, à la différence des études de Redden Galak (2013), nous proposons que le type d'informations à traiter influence l'effet du rappel difficile des dernières consommations passées sur le désir et l'intention d'achat. De plus, contrairement à notre étude, ils ont demandé à des personnes de se rappeler leur nourriture préférée sans la présence d'un stimulus, alors que notre étude a présenté différents produits aux consommateurs et leur a demandé de choisir leur boisson préférée non-alcoolisée. Notre manipulation se trouve dans un contexte marketing, alors que leur manipulation est davantage en psychologie. En outre, ils se sont intéressés à montrer l'effet de la difficulté de rappel sur le sentiment de satiété alors que nous étions intéressés à l'effet de la difficulté de rappel sur le désir de consommation et l'intention d'achat des consommateurs.

D'autres recherches ont démontré que le rappel du plaisir ressenti pendant les derniers moments d'une expérience gratifiante passée, plutôt que pendant les premiers moments, détermine la proximité temporelle avec les individus désirant répéter l'expérience (Garbinsky, Morewedge et Shiv, 2014). Cette étude se focalise sur un rappel analytique des expériences passées (l'expérience en morceaux) alors que notre étude porte sur un rappel holistique des expériences passées (l'expérience dans son ensemble). De même, l'étude de Robinson, Blisset et Higgs (2012) démontre qu'une intervention simple pourrait être utilisée pour augmenter le plaisir rappelé des aliments. Ils ont manipulé la répétition d'information dans le but de changer la façon dont ce plaisir rappelé est codé dans la mémoire, en le rendant encore plus mémorable. Dans notre cas, nous avons seulement analysé la récupération d'information et non pas le stockage ou le codage d'information.

Contrairement à ce dernier travail, nous nous sommes concentrés davantage sur l'effet de rappel (traitement systématique et heuristique) des expériences passées (information sémantique et épisodique) sur le désir de consommation et des conditions telles que la difficulté attendue de rappel et la pression du temps. Nous démontrons que cet effet peut être généré par la façon dont l'information sur les expériences passées vient à l'esprit, et par le type d'information qui vient à l'esprit (Lee, 2004), ainsi que par certaines conditions de malléabilité (Schwarz, 2010).

Notre travail confirme l'application de la théorie de *Dual-Process* (Chaiken, 1980 ; Chaiken et Trope, 1998) et est en ligne avec le modèle dynamique du désir (Hofmann et Van Dillen, 2012). Par exemple, le désir des consommateurs est conscient (traitement systématique) lorsqu'ils se rappellent le contenu (information épisodique) des consommations passées. Le désir est inconscient (traitement heuristique) lorsque les consommateurs se rappellent la date (information sémantique) des consommations passées tout en estimant que cette tâche est difficile ; déclenchant ainsi l'utilisation d'inférences. En outre, l'application de la théorie de *Dual-Process* du désir est aussi en accord avec le traitement associatif et élaboratif de la

théorie du désir de Kavanagh, Andrade et May (2005). Le traitement heuristique de l'information correspond au traitement associatif du désir tandis que le traitement systématique au traitement élaboratif.

Nos résultats peuvent aussi être compris depuis la perspective de théories concurrentes. Cela veut dire que la relation entre la difficulté de rappel d'un produit préféré et le désir de consommation pourrait être expliquée par la génération « top-down » des émotions où l'évaluation à bas niveau doit être amorcée par le traitement de niveau plus élevé, et aussi par la génération « bottom-up » où le traitement à bas niveau amorce celui de niveau plus élevé (Leventhal et Scherer, 1987 ; van Renkum et Scherer, 1997). Le niveau élevé fait référence au traitement sophistiqué et lent tandis que le bas niveau à des routines automatiques. Ainsi, le traitement heuristique de l'information d'expériences gratifiantes de consommation ferait référence à la génération « top-down » des émotions et le traitement systématique de l'information à la génération « bottom-up » des émotions. A la différence de cette théorie, nous nous sommes focalisés sur le désir qui n'est pas seulement influencé par la simulation d'expériences émotionnelles ou plaisantes mais aussi par le sentiment de déficit. Dans notre recherche, ce dernier est affecté par l'inférence de difficulté de rappel.

3. Implications

Notre contribution a le potentiel d'aider les marketeurs à prendre des mesures concernant le rappel des consommations passées d'un produit qui est fréquemment consommé et a un taux élevé de préférence. Les marketeurs peuvent trouver des opportunités de communication pour mettre en évidence le peu de produits préférés que les individus consomment. Pour évoquer davantage de désir et d'intention d'achat, il convient de conduire les consommateurs vers des rappels difficiles de consommations passées.

Etant donné que l'information dans le packaging peut influencer la perception du consommateur envers le produit, des stratégies de communication en marketing peuvent être

appliquées à la surface du package afin de conditionner les consommateurs à désirer et à acheter le produit. Cette stratégie de communication consisterait à demander les consommateurs à se rappeler les dernières fois qu'ils ont consommé le produit. Par exemple, des questions pourraient être ajoutées sur le centre du packaging de produits hédonistes comme des chips ou du chocolat.

Une autre implication managériale de notre recherche serait l'introduction des questions relatives à la difficulté de rappel des consommations passées des produits préférés et fréquemment consommés sur les supports de présentation de produits. Par exemple, si la pizza Hawaïenne est la plus consommée et préférée dans un restaurant de pizza présentée dans une carte menu, la difficulté de rappel donc pourrait augmenter le désir de consommation à travers un sentiment de déficit.

Les marketeurs pourraient aussi utiliser des questions relatives à la difficulté de rappel des consommations passées dans la publicité. Par exemple, des questions sur la consommation passées d'un produit star comme le Big Mac de McDonalds pourrait être demandé dans la publicité afin d'augmenter le désir et l'intention d'achat du produit.

De même, les vendeurs pourraient induire le désir et l'intention d'achat des consommateurs en leur demandant sur les consommations passées de produits préférés. Par exemple,

De la même manière, les marketeurs peuvent transmettre directement un message aux consommateurs en leur demandant de se rappeler leurs consommations passées. Ils peuvent utiliser des questions sur le rappel difficile des consommations passées dans les publicités. Ils doivent spécialement se concentrer sur l'information sémantique comme les derniers jours que les produits ont été consommés par les individus ou les endroits où ont été consommé en vue d'influencer le désir et l'intention d'achat. De même, les vendeurs peuvent induire le désir et l'intention d'achat des consommateurs en leur demandant directement de se rappeler l'information sémantique des consommations gratifiantes passées.

Enfin, la pression du temps peut être introduite dans les décisions d'achat dans le but de faire que les consommateurs utilisent un traitement heuristique de l'information des consommations passées. Si les consommateurs se rappellent l'information sémantique ou épisodique des consommations passées, l'influence du rappel difficile sur le désir et l'intention d'achat est toujours positive, sous la pression du temps.

4. Limites de la recherche

Aucune recherche n'est sans limites, et cette partie se penchera sur les limites de notre recherche.

La première des limites de notre recherche concerne le fait que nous ne mesurons pas directement le sentiment de déficit. Cela implique que nous supposons que le rappel difficile des consommations passées induit les consommateurs à utiliser l'inférence de difficulté de rappel « il est difficile de me rappeler, donc je n'ai pas beaucoup consommé » (Schwarz et al., 1991 ; Schwarz, 2004 ; Tversky et Kahneman, 1973), ce qui les conduit à sentir un déficit et par conséquent un désir de consommation. Les variables médiatrices entre la difficulté de rappel et le désir doivent également être analysés dans des recherches futures.

Une deuxième limite réside dans le fait de ne pas avoir utilisé un plan factoriel expérimental complet pour étudier toutes les conditions de notre recherche, ce qui pourrait être représenté de la manière suivante : 2 (information sémantique versus information épisodique) x 2 (traitement systématique versus traitement heuristique) x 2 (rappel facile versus rappel difficile) x 2 (sans pression du temps versus sous la pression du temps) x 2 (produit hédonique versus activités de loisirs) = 32 groupes. Cependant, nous avons adapté nos expérimentations à l'accessibilité des données et aux objectifs spécifiques de notre recherche.

Une troisième limite réside dans le fait de mesurer le désir avec un seul item. La fiabilité et la validité de cette mesure ne peuvent pas être testées dans les expérimentations. Cependant, l'utilisation d'un simple indicateur ou des multiples indicateurs a été discutée dans la

recherche en méthodologie. Par exemple, l'utilisation traditionnelle d'un facteur avec des multiples items comprend les œuvres de Thurstone (1947), de Mulaik (1972) et de Byrne (1989), tandis que l'utilisation de l'analyse de chemin avec un seul item a des racines dans la régression et comprend les travaux de Wright (1921), de Duncan (1975), de Heise (1975), et de Hayduck et Littvay (2012). Ce dernier travail recommande l'utilisation de peu de bons items (un ou deux items sont suffisants) parce que des items redondants supplémentaires peuvent introduire des problèmes additionnels tels que la variance de l'erreur ou la causalité.

Une quatrième limite est le manque de vérification de la manipulation pour assurer la différence des niveaux des modalités de la pression du temps. Pour éviter les critiques sur la sélection arbitraire de la pression du temps par des nombreux chercheurs (Ordoñez et Benson, 1997), une vérification de la manipulation de la pression du temps a dû être testée. La pertinence des conditions de la pression du temps devrait être testée à l'aide d'une manipulation de la pression subjective du temps (Hornik, 1984). Cependant, la pression du temps a été manipulée dans notre recherche selon des études antérieures et elle a montré une influence sur les variables dépendantes.

Dans le cas de la pression temporelle, et comme cette dernière rend les personnes dépendantes du traitement heuristique de l'information, nous avons déduit que les consommateurs attribuent la difficulté de rappel au fait qu'ils ne consomment pas beaucoup, et par conséquent ils éprouvent davantage l'envie de consommer des produits. Cependant, la difficulté de rappel peut aussi être attribuée à la contrainte temporelle. Les consommateurs peuvent inférer que la tâche de rappel est difficile à cause de la contrainte du temps et parce qu'ils ne consomment pas beaucoup. C'est la cinquième limite de cette recherche. Malgré cette limite, nous pensons qu'il est plus probable que les consommateurs utilisent l'inférence de la difficulté de rappel à cause de sa propriété d'automaticité (Menon and Raghubir, 2003), alors que l'attribution de la difficulté de rappel à la pression temporelle dépendra de l'expérience métacognitive. Sous la pression temporelle, une expérience métacognitive a peu de chance de se produire.

Etant donné que notre recherche s'est intéressée à des produits consommés de façon irrégulière, la sixième limite de notre recherche réside dans le fait de ne pas avoir mesuré la régularité de la consommation des produits. Par exemple, si les participants consommaient un coca-cola comme produit préféré chaque jour durant la pause, la tâche de rappel ne serait donc pas difficile. Aussi, si les participants avaient l'habitude d'aller au cinéma chaque samedi soir, alors la tâche de rappel ne serait pas difficile.

La septième limite de notre recherche vient du fait que nos résultats ne sont pas valides pour les produits hédoniques, dans la seconde expérimentation. La difficulté à se rappeler les consommations passées d'un produit préféré a un effet négatif sur le désir et sur l'intention d'achat. Les consommateurs qui ont une difficulté à se rappeler les consommations passées de leur produit préféré, désirent moins ce produit que ceux qui s'en rappellent facilement.

Ce résultat inattendu ouvre des perspectives de recherches futures sur les autres types de raisonnement que les individus peuvent mettre en œuvre lorsqu'ils se rappellent des informations épisodiques relatives à leurs consommations passées. Une explication à ce résultat est que le sentiment de déficit est influencé par le nombre de rappels demandé au répondant. Les consommateurs à qui nous avons demandé de se rappeler les trois dernières fois qu'ils ont consommées les produits, ont eu moins le sentiment de déficit que ceux à qui nous avons demandé de se rappeler uniquement la dernière fois qu'ils ont consommé les produits : les consommateurs du premier groupe déduisent de ces rappels qu'ils ont beaucoup consommés.

Bien que les consommateurs ne soient influencés par l'inférence de difficulté de rappel lorsqu'ils se rappellent des informations épisodiques, leurs sentiments de déficit étaient influencés par le nombre de rappels des consommations passées. Ce résultat est conforme aux travaux fondateurs de Schwarz et al. (1991). Les individus qui se rappellent de douze comportements assurés (*assertive*) et ceux qui ne sont pas influencés par l'inférence de facilité

de rappel à cause de la musique, se sentent plus sûrs d'eux que ceux qui se rappellent de six comportements assurés. La non-utilisation de l'inférence rend les individus dépendant d'information déclarative et ils déduisent leur assurance (affirmation de soi) à travers le nombre de comportements assuré desquels ils se rappellent (Schwarz et al., 1991, expirant 3). Enfin, la dernière limite identifiée est relative à la validité discriminante. Du fait d'avoir mesuré le désir à l'aide d'un seul item, la technique d'évaluation de la validité discriminante de Fornell et Larcker (1981) n'est pas possible. Cependant, nous avons utilisé la matrice de corrélation et la matrice des composants dans le but d'évaluer la validité discriminante. Dans la première expérimentation, les *loadings* se répartissent clairement sur les variables concernées (le désir, l'achat et la difficulté de rappel). Les corrélations entre les concepts sont inférieures aux corrélations à l'intérieur des concepts.

5. Les recherches futures

Comme indiqué précédemment, les recherches futures devraient analyser le sentiment de déficit comme une variable médiatrice dans la relation entre la difficulté de rappel et le désir de consommation. Le sentiment de déficit devrait être mesuré et son pouvoir de prédiction démontré.

Par ailleurs, les recherches futures devraient se concentrer sur d'autres inférences que les consommateurs peuvent utiliser dans la construction du désir sur la base d'informations épisodiques (Lee, 2004). Par exemple, les consommateurs pourraient réaliser qu'ils n'aiment vraiment pas les produits si le rappel de consommations passées est très difficile.

De même, le type d'expérience rappelée devrait également être analysé, par exemple, si les individus se rappellent des expériences extraordinaires passées ou si la vivacité d'expériences rappelées est forte, alors le désir de consommation peut ne pas être influencé par des inférences.

De même, il serait intéressant d'analyser d'autres conditions particulières dans lesquelles le recours à des inférences pourrait vraiment avoir un effet. Par exemple, le besoin de fermeture, le stress, l'humeur, etc.

De même, il serait intéressant d'analyser d'autres conditions particulières sous lesquelles le recours à des inférences pourrait avoir un effet. Par exemple, les individus ayant besoin de fermeture (*need for closure*) seront plus susceptibles d'adopter des processus élaboratifs de l'effort que les personnes ayant un faible besoin de fermeture (*need for closure*), qui sont plus susceptibles de compter sur un traitement moins d'efforts et heuristique (Petty et al., 2009). Cela signifie que le désir des consommateurs avec un besoin élevé de fermeture (*need for closure*) est moins susceptible d'être influencé par la difficulté à se rappeler la consommation passée d'un produit préféré parce que les consommateurs se motiveront eux même à faire l'effort nécessaire pour se rappeler de la consommation passée. Dans le même sens, l'humeur des consommateurs pourrait avoir une influence sur le traitement des informations relatives aux consommations passées (Bless et al., 1990). Par exemple, un consommateur heureux pourrait dépendre d'un traitement de l'information heuristique et être influencé par l'inférence de difficulté de rappel.

Enfin, étant donné que le rappel de consommations passées dépend de la mémoire, l'encodage et le stockage de l'information devraient également être analysés dans travaux futurs.