國　立　交　通　大　學

運輸科技與管理學系碩士班

碩士論文

不同決策程序系統下依附感相關效應之探討

Effect of Attachment of Two Process Systems on Decision Making

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中華民國　九十九　年　九　月

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摘　要

人們在做決策時，理想上應該多應用理性資訊處理過程系統，但實際上當他們腦中使用認知的資源已被其他事物占據時，常就無法有效的應用理性過程系統，而會比較受到情感的影響。本研究主要在推論與比較在這兩種過程系統下之決策，會產生的不同可能效應。人們除了在理性比較選擇群中的選項各可以為我們帶來的好處外，在選擇的過程中，也會想像若使用這種產品或接受這種服務的情況，於是可能導致他們與這些選項產生了心理上的聯繫，而這種依附感會進一步使人們產生彷彿已經擁有這些選擇的感覺，所以當他們要從其中選出一個選項時，那些沒有被選擇的選項似乎變得比選前他們所想的還要有吸引力。本研究為探討這些負面效應對決策的影響，推演出四個研究假設，並且設計了兩階段的研究程序來驗證假設。第一階段的問卷在檢定人們在消費行為時是否有上述兩種不同的決策處理方式，亦即辨認與區分哪些狀況下受測者較易受到依附感的影響。第二階段的問卷則在比較不同情境下兩類受測者之後續效應。所有問卷都有經過前測及修正，而正式施測結果發現實證結果支持本研究的假設推論。最後，作者根據研究結果提供若干管理意涵，也對後續研究提出相關建議。

關鍵字：決策，過程系統，依附感，損失趨避

Effect of Attachment of Two Process Systems on Decision Making

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Abstract

When people making decisions, ideally should process the related information more rationally and thoughtfully to get more satisfied choice. But as people's cognitive resource is impeded by other disruptions, people cannot function the cognitive system well. Meanwhile, they become easily influenced by affective reactions which means, ruled by the affective system. This research mainly discusses and compares the decisions under the two process systems and its consequences effect. People consider their choice options closely to get a more satisfied choice. But in the that process of decision, as people deliberating the benefits the products can bring or wondering the possible experience of the services, they could proximate the psychological distance between them and the options. Thus, they may attach to the choice options. The attachment would further cause people to feel a sense of ownership of the options. So, when people choosing one out of the set, they may feel like forego the nonchosen options. The attached people may surprisingly found they are hit by psychological discomfort and feel the nonchosen options seem better before decision is made. To discover the negative effect on the process system, on this research we reasoning four hypotheses and design a two stage experiment. The first study is to examine the condition when people using different process system. The second study recognizes the attachment effect under different systems. All questionnaire are modified and pretested, the formal results supports our hypotheses. Last, based on the results, we provide implications and suggestions of future research.

Keywords: **Decision, Process systems, Attachment, Loss aversion**

誌　謝

儘管論文是延遲了一些時間才完成，但重要的是最終我還是幸運的完成了碩士論文。在碩士的求學過程中，經歷了許多我從未預料會發生的事，這讓我更珍惜在這短短兩年所得到的知識與經驗，得到剩下的是深刻的體會與感謝。

首先我要感謝我的家人，我的父親母親從小到大都沒有強迫我一定要走怎麼樣的人生道路，給予我充分的自由，就讀研究所一事亦然，沒有疑慮給予我的只有充份支持，在這兩年他們給予我許多精神上與金錢上的支持，尤其願意讓我能夠到北京當一學期的交換學生，這個經驗對我來說是畢生難忘的，著實感謝您們。其次我要感謝我的姊姊們，大姊與二姊雖然是被迫要當我的訪談對象，但是在最後若沒有妳們的鼓勵與談話，我想我會很難繼續走完這條路，謝謝妳們。這裡也特別感謝秋薰姐姐，在我兩年期間協助我取得許多交大沒有的期刊文章，在這裡特別感謝妳的協助與支持。

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林幼芝 謹誌

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1. Introduction

Common sense suggests that consumers believe they make more satisfied decisions as they consider their choice options more closely. Imagine Ms. A is planning a tour trip for the summer vacation. She identified two contenders but has not decided which one of them to go. One spot is Paris and another is New York. Each of the cities has its own characteristics and distinguishing features. To a more satisfied decision, she acts rationally. She deliberate extensively and rehashing the features of the two options. For several days later, she finally makes her decision to Paris. However, as she books the ticket to Paris, rather than feels satisfied with her choice, she is hit by a feeling of unease about her decision. And New York seems better than she thought before the choice. The purpose of the effortful decision process is for a more satisfied choice, yet it is the process in cognition induces affective reaction which leads to undesirable effects. The effortful decision process is to make a more satisfied choice, but it is also the process that makes the choice become not so charming.

Nonetheless, in our daily life, sometimes people cannot perform rationally, especially when they are cognitively busy or impeded. For example, some students study less efficient when they listening to music than when they study in quite environment. Things that interrupt or impede the cognition work hereafter called cognitive load. The cognitive load is believed to disrupt more conscious, controlled processing without disrupting nonconcious, automatic processing (Gilbert, Pelham and Krull, 1988). As the decision maker's working resource is occupied by other unrelated issues, some people make their decision mostly by their feelings. Generally, there is a dual-process system people commonly use to make decisions. Stanovich

and West (2001) describe the traditional processes which partitioned into two main families – traditionally called intuition and reason – as system 1 and system 2. The systems are separately described as System 1 is an associative and feeling based process and system 2 is a deliberated and rule-based process (Kahneman and Frederick, 2002). As a matter of fact, as people deliberating the decision options, they are using the system 2. For people using feelings and intuitions to make decision, they are using the system 1. In short, system 1 is relative affective and system 2 is relative cognitive. And when people with higher cognitive load, their cognitive system 2 are impeded, thus they decide more based on the affective system 1.

People often being reminded to be rational rather than to act impetuously, especially when they making decisions. That is using the more rational and deliberative system 2. However, deliberate the advantages of each choice alternative can increase the psychological proximity to the options. This kind of prefactual thinking about the choice options might bring could induce the attachment (Carmon and Ariely, 2000; Dhar and Wertenbroch, 2000; Hoch and Loewnstein, 1991). The emotional attachment is a relationship-based construct that reflects the emotional bond connecting an individual with a consumption entity, i.e., brand, person, place or object (Park and Macinnis, 2006). Once people attach to the option choices, they may induce the sense of ownerships (Areily, Huber and Wertenbroch, 2005; Carmon, Wertenbroch and Zeelenberg, 2003). To be specifically illustrated, the ownership is based on the "perceptions of people" rather than the "fact." Thus, while facing to make decision, choose one among the options become having to forgone the others. Losing an object is an experience of unpleasant, yielding to psychological discomfort and people often view their feelings as information when they make judgment (Pham, Cohen, Pracejus and Hughes, 2001; Schwarz, 2001). Thus, the feeling of losing the nonchosen option may induce the postchoice discomfort. People may further take the discomfort as information changing the evaluation of

the foregone option, that the nonchosen options seem better than they were before the choice.

People percept to choose a more satisfied choice requires a thoughtful decision process, that is, via a rational system 2 process. Apparently, consumers are willing to execute a more effortful decision process to get a more satisfied or accurate choice. However, it might is the process trying to reduce the possible negative feeling generated after choice that reversely induces postchoice discomfort. To be more specifically, we propose another possible way of people attach to objects via their decision process rather than the presentation mode of the objects (Carmon and Ariely, 2000; Dhar and Wertenbroch, 2000; Hoch and Loewnstein, 1991). Further, the effect as a matter of fact relates to several underlying issues and this research could contribute to them. Firstly, we only know a few about the relationship between accuracy maximization, negative emotion minimization and effort minimization metagoals in consumer goals (Bettman et al., 1998). Such as, Drolet and Luce (2004) discover that when people trying to prevent negative emotion via preventing trade-off the options' attributes. But with a little cognitive load, they less focus on the goal of reduce negative emotion, thus trade-off the attributes which is the appropriate way to make decision. In this research, we hope to render some discussion to the decision goal conflict topic by discuss the other aspect, maximize accuracy.

Second, one thing to notice is the common effect of cognitive load may interrupt the process people try to use. They may thus make decision based on the affective system 1. In this research we examine one possible consequence of the usage the two process systems. We adopt the concept of dual-process systems, however, we can still contribute to argue the myth that people using the rational system 2 make more satisfied choices than using affective system 1.Finally, the evaluation of a option is not only depend on the option itself, sometime the decision process may render some output that also affect the evaluation of the final choice. For instance, scholar found that some affects generated from the decision process can change

the assessment of a new product (Meyers-levy and Tybout, 1989; Stayman, Alden, and Smith, 1992).

In our research, we provide another case of process-induced affect influencing the goods. Especially, instead of discussing the chosen option being influenced, in this research focus is the effect on the nonchosen option. In sum, the purpose of this research is to uncover the phenomenon of why people effort to get satisfied choice, but less satisfied sometimes. And reversely, when they have cognitive load, that they decide more rely on their feeling, they reduce the chance of getting postchoice discomforts. It uncovers a case of how people generate attachment on choice option via their decision process instead of how the options being presented. This result could contribute to the issue of consumer behavior which is the concern of the marketers. With the discover of the phenomenon, managerial implications can also be derived from our study which can help marketing practitioners with better understanding of consumers' decision process and developing more appropriate tactics, such as the applied on the advertising and product promotion strategies.

2. Literature Review

2.1 Process System

Process systems are the way people absorb, retain and process information stimuli, and have been shown to be influential in the consumer decision process as information acquisition, even the consumer's decision making (Hoch and Lowensstein, 1991; Hsee and Kunreuther, 2000; Luce, 1998; Luce, et al., 1999; Pham et al., 20001; Rottenstreich et al., 2007; Shiv and Fedorikhin, 1999). Recent researches have indentified two distinct mental processing, one is associative and feeling based and the other is deliberate and rule based (Chaiken and Trope, 1999; Epstein, 1994; Peter and Slovic, 2000; Sloman, 1996; Stanovich and West, 2002). Kahneman and Frederick (2002) contrast the two naturally different systems as system 1 and system 2. They depict system 1 as automatic, rapid, associative and affective, and system 2 as controlled, slow, deliberated and deductive. Before entering how the mental processing influence the consumer behavior, in the next part is firstly to introduce the nature of the two systems.

2.1.1 The Associated-based and Rule-based systems

According to Sloman (1996), the system 1 is more associative. It encodes and process statistical regularity of its environment, frequencies and correlations amongst the various features of the world. It treats objects in similar ways to the extent that the objects are perceived as similar. Rather to find a reason on the basis of an underlying causal or mechanical structure, system 1 constructs estimates based on underlying statistical structure. In contrast, the system 2 is more rule-based. The rule-based systems are productive in that they can encode an unbounded number of propositions. And the rules are considered as systematic, in the sense that their ability to encode certain facts implies an ability to encode others.

Accordance to Sloman (1996) who believe rules are the form of representation that exhibit the properties of productivity and systematicity most transparently, the rule can be abstractions that apply to any and all statements which originally have certain well-specific, symbolic structure. The difference exhibit when people using the two processes, what is the underlying mechanisms that beneath people's action or thoughts. Via the research of how people's reasoning differently, it is helpful for us to get a generally and initially concept of why the two systems can affect people's behavior or their decisions. Thought the psychological part is fascinating, the next part is to introduce more exterior part of the mental process systems.

2.1.2 The Dual Process -- System 1 and System 2

Stanovich and West (2001) describe the traditional processes which partitioned into two main families – traditionally called intuition and reason – as system 1 and system 2. The term they use is a suggestion of the image of autonomous homunculi rather than an intended meaning. And now it is widely applied under the general label of dual-process theories (Rottenstrech, 2007; Sloman, 1996). Follow with Stanovich and West (2001), Kahneman and Frederick (2002) take systems as label for collections of processes that are distinguished by their speed, controllability, and the contents on which they operate. With previous research, they order the process characteristics of the two systems (see table 1). They described system 1 as associative and feeling based process and system 2 as deliberated and rule-based process.

Espein (1994) also suggest a related cognitive-experiential self-theory which depicts the cognitive and the psychodynamic unconscious by assuming the existence of two parallel, interaction modes of information processing. One is rational system and the other is emotionally driven experiential system. Basically is other terms replace the different systems but similar in nature. He also made a comparison of the experiential and rational systems.

Table 1: Kahneman and Frederick's (2002) Two Systems

System 1 (Intuitive)	System 2 (Reflective)
Process Characteristics	
Automatic Effortless Associative Rapid, parallel Process Opaque Skilled Action	Controlled Effortful Deductive Slow, serial Self-aware Rule application
Content on Which Process Act	
Affective Causal propensities Concrete specific Prototypes	Neutral Statistics Abstract Sets

To be general discuss, with the previous related researches, it can be summarized that the affective system 1 includes fast and instinctive processes formed by associative learning method that operate largely beyond awareness. And the rational system 2 is capable of constructing mental representations and simulations of future based on hypothetical or abstract thought. And this research follows with Kahneman and Frederick's (2002) definition – system 1 and system 2 – to describe the two process systems.

Table 2: Espein's (1994) Comparison of Experiential and Rational Systems

Experiential system	Rational system
● Holistic	● Analytic
● Affective: pleasure-pain oriented	● Logical: reason oriented
● Associationistic connection	● Logical connections
● Behavior mediated by vibe from past experiences	● Behavior mediated by conscious appraisal of events
● More rapid processing: oriented toward immediate action	● Encodes reality in abstract symbols, words and numbers
● More crudely differentiated	● More highly differentiated
● More crudely integrated	● More highly integrated
● Experienced passively and preconsciously	● Experienced actively and consciously

2.1.3 The Relationship between the two Systems

Traditional approach believe that affect in preference is an outcome of cognitive representations of the object; that is, before you can say you like something, you must know what it is. However, situation abound in everyday decision making when it is assumed that system 1 and System 2 are set in motion simultaneously and work independently to provide their respective feedback when face with a decision task (Zajonc, 1980; Zajonc and Markus, 1982). They conceptualized as two distinct entities which can proceed independently, as well as work together. With their concept, many researcher also agree with them, and conclude that individuals most likely to use a combination of affective and cognitive processing (Edward, 1990; Giese and Sojka, 1998).

The concept of two parallel systems providing feedback to decision task has gained significantly lately (Kahneman, 2003; Stanovich, 2004; Stanovich and West, 2002; Sloman, 2002). Misgra et al. (2007) propose a different notion that affective system is able to interfere the information integration of system 2 which is believed to utilize everyday consumer decision making. Though there are many branches depict the relations of the two systems, the nature of the systems still remains quite vivid among all the discussions.

2.1.4 Working Capacity to Process the Systems

Since the system 1 is to employ affected charged, automatic, rapid, parallel, heuristic-based process that are relatively undemanding of cognitive capacity (Kahneman and Frederick, 2002; Stanovich, 2004; Sloman, 2002). In contrast, system 2 is a controlled, rule-based, slow, serial and deliberative and is constrained by working memory capacity (Giese and Sojka, 1998; De Neys, 2006; Rettenstreich, 2007; Shiv and Fedorikhin, 1999). It is believed that system 1 quickly proposes intuitive answers to judgment problems as they arise, and system 2 monitors the quality of these proposals, which it may endorse, correct or

override (Kahneman and Frederick, 2002). And it is proposed that logical reasoning requires cognitive resources (Stanovich and West, 1998). Zajonc (1998) also describe the affective system 1 as precognitive in nature, it occurs without any extensively perceptual and cognitive processes.

Among all the direct or indirect suggestions, it is clearly that the two systems require different capacity or cognitive resources to be processed. The capacity or the cognitive resource is quite different across individuals, and the gap is especially evident under conflict decisions (De Neys, 2006). Though there is something in common which can influence people's ability to process the more effortful system 2, the cognitive load is believed to impede more conscious, controlled processing without disrupting nonconscious, automatic processing (Gilbert, Pelham and Krull, 1988).

2.2 Cognitive Resource

Psychology research suggests that person perception consists of (1) categorization (i.e., identifying action), (2) characterization (i.e., drawing dispositional inferences about the actor), (3) correction (i.e., adjusting those inferences about the actor, Trope, 1986; Quattrone, 1982). And it is believed that characterization is generally an overlearned, relatively automatic process that requires little effort or conscious attention, whereas correction is a more deliberate, relatively controlled process that uses a significant portion of the perceiver's processing resource (Gilbert, Pelham and Krull, 1988). Just like how the affective system1 and deliberative system 2 works, the automatic system 1 need just few conscious and cognitive efforts whereas the rational system 2 requires cognitive resource to process. Once the process is relates to the cognitive process, it needs cognitive resource to be function. Reversely, it is reasonable to presume that once the cognitive resource is impeded or disrupted, the function of system 2 might process as fluency as there is sufficient cognitive resource.

2.2.1 Cognitive Load

Gilbert, Pelham and Krull (1988) found when people are cognitively busy, one component of the person-perception process (correction) suffers more than another (characterization). The cognitively busy seems to impair the ability to use information about the situational constraints. In other words, when the cognitive resource is processing on other subjects, the left resource is not quiet available to provide sufficient support to function well. In this condition, it can be understand as when people with cognitive loads. Further, the cognitive load is believed to impede more conscious, controlled processing without disrupting nonconscious, automatic processing (Rottenstrech, Sood and Brenner, 2007; Shiv and Ferdorikhin, 1999).

Recent research implies the load's specific effect is to interfere with people's use of prestored information, including self-goals, prominent effect, self-control behavior or choice-generated emotion (Drolet and Luce, 2004; Drolet, Luce and Simonson, 2008; Rottenstrech, Sood and Brenner, 2007; Shiv and Ferdorikhin, 1999; Ward and Mann, 2000). It is notice while that the cognitive load is especially affected on the issue of self-control or self-regulation. Self-control is to use the cognitive part of individual to prevent from affective impulsive behavior, i.e., dieter prevent from eating high calories food. So when the dieter with cognitive load, it reduce their cognitive monitoring function thus they may unable to process cognition part of decision, thus acting impulsive behaviors like eating high fat food. It is noticeable that once the individual is not dieter, the decision is less likely to be affected by the cognitive load (Ward and Mann, 2000).

2.3 Attachment

2.3.1 Attachment

In a pioneering work on attachment, Bowlby(1979) suggests an attachment is an

emotional-laden target-specific bond between a person and a specific object. The emotional attachment is a relationship-based construct that reflects the emotional bond connecting an individual with a consumption entity, i.e., brand, person, place or object (Park and Macinnis, 2006). Attachments vary in strength and stronger attachments are associated with stronger feelings of connection, affection, love and passion. Not only linked to attitudes, it is also evidently by psychological and behavioral outcomes not typically linked to attitudes.

According Park and Macinnis' (2006) integration, they suggest emotional attachment entails evaluative properties like attitudes, but it also include hot affect, reflecting the motivational and emotional properties associated with a relationship bond. They identify several below. First, the concept of self is a relevant one for the attitude construct which is inherently bonded to attachment. Second, attachment has strong motivational and behavioral implications, such as proximity-seeking behavior, separation distress, as sense that attached object offers a safe haven and mourning of its loss (Bowly, 1979). With strong emotional attachment, individual is more likely than attitude to predict behaviors that reflect commitment and investment in the consumption object (Thomson et al., 2005). Third, strong self-object linkages result in a rich set of schemas, exemplars, and affective- laden memories linked to the object (Mikulincer et al., 2001).

2.3.2 What Causes Attachment

As attachment is described as a psychology bond of the individual and the specific object, its existence is quite different from each person. Though, there is still commonly factor or behavior that causes the attachment to occur. Deliberating on advantages of each choice alternative can increase the psychological proximity to the options, thus increases attachment. This kind of pre-factual thinking about the options and imagination of the feeling the consuming options brings would induces psychological proximity and attachment (Carmon

and Ariely, 2000; Dhar and Wertenbroch, 2000; Hoch and Loewnstein, 1991).

2.3.3 The Measurement of Attachment

In consumer behavior there are also researches document that a variety of emotions (e.g., love, warm feelings) characterize collector's emotional attachments to brand (Slater, 2000). Previous mentioned higher attachment would lead to higher commitment toward the object. In a marketing context, the commitment can play as a indicator of the extent to which the individual remains royal to the brand (Garbarino and Johnson, 1999). But, only few empirically test measurement of consumers' emotional attachment. Thomsonet al. (2005) are the first to develop a psychometrically measure of the strength of consumers' emotional attachments to brands. Through a series a valid and reliable test, they suggest a stable underlying structure to the EA scale (see Chart1). Gross and Brown (2006) also suggest an emotional scale about place attachment accordance with many previous place attachment studies (see Table 3).

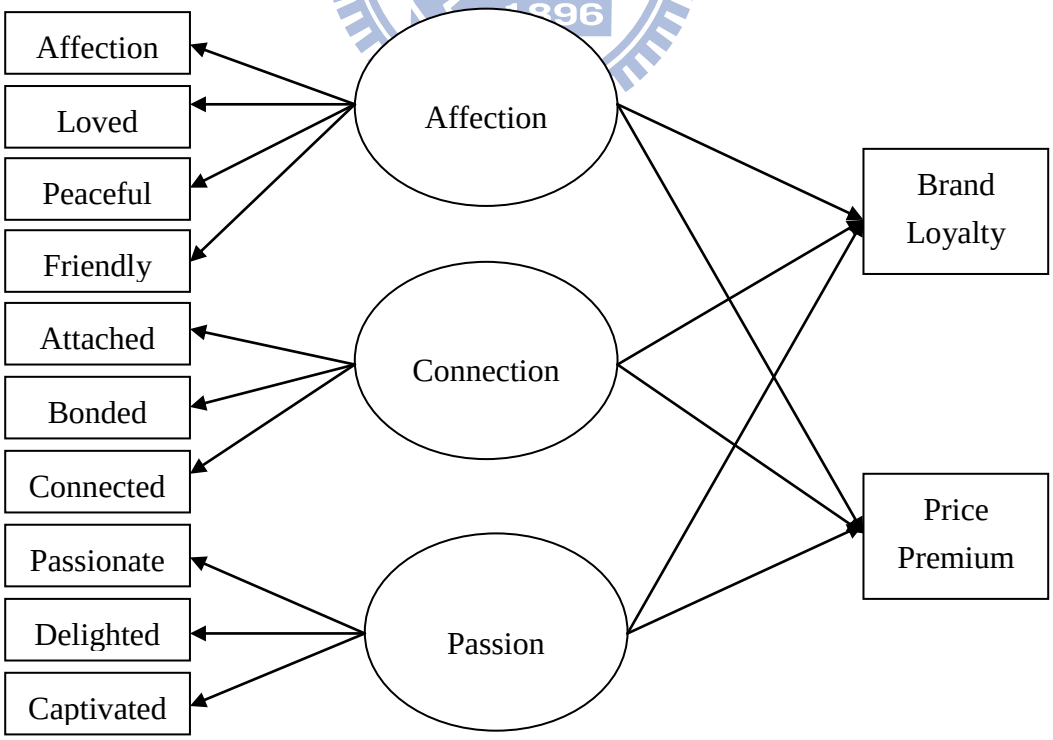

Chart1. Brand EA Model of Thomson et al. (2005)

Table 3: The Place Attachment questionnaire of Gross and Brown (2006)

Place Attachment **(Note: Response Coding: 1= strongly disagree to 5= strongly agree)**
● I get more satisfaction out of visiting the () region than any other place ● I identify strongly with the region ● Visiting the () region is more important to me than visiting any other place ● I am very attached to the () region ● I enjoying visiting the () region more than any other place ● I wouldn't substitute any other place for the type of experience I have in the () region ● I have a strong connection with people who visit the () region ● The () region means a lot to me ● The distinctive lifestyle of the () region is something that attracted me here

2.4 Loss Aversion

2.4.1 Endowment Effect

The endowment effect is defined as a discrepancy between buying and selling. That is, goods which one owns are valued more highly than identical goods not held in the endowment. For the non-owners, their perceive gain from acquisition was apparently lower than the owners' potential loss from sell (Kahneman, Knethsch and Thaler, 1990; Kahneman, Knethsch and Thaler, 1991).

Endowment effect is commonly explained as the result of loss aversion (Kahneman and Thaler, 1979). The word "loss" denotes something inherently aversive (Areily, Huber and Wertenbroch, 2005). If one initially owns an object, the prospect of losing it is seen as a (relatively large) loss. Instead, if one does not, the prospect of acquiring it is seen as a (relatively small) gain. Novemsky and Kahneman (2005) build the boundaries of loss aversion. Their key idea is the exchange goods are given up as intended do not exhibit loss aversion. Unlike previous research which code outcomes as gains and losses depends on the

individual's intentions and not the only on the objective state of affairs at the moment of decision, they focus is whether the individual intention can produce or inhibit loss aversion. For instance, money give up in purchase is not always subject to loss aversion.

2.4.2 The Moderator of Loss Aversion

As mentioned, losses loom larger than gains implies people impute greater value to a given object when they given it up than when they acquire it (Kahneman and Tversky, 1979). As previous research suggests, the intention determines whether giving up that good is evaluated as a loss or a foregone gain (Novemsky and Kahneman, 2005). The change in cognitive perspective plays a role of loss aversion (Areily, Huber and Wertenbroch, 2005). For example, the perspectives of buyers and sellers. Seller focus on the aspects of the exchange that they might lose, the object; while the buyers focus on the aspect of exchange they might lose, the expenditure. It seems that the ownership of the object leads to cognitive gaps between the sellers and buyers.

Consumers adapt to ownership over time, prior ownership can increase the value that consumer place on an object. It is believed as a gradual adaption process as the consumer's psychological state moves from no ownership, to partial ownership, to complete ownership (Stahilevitz and Loewenstain, 1998). Instead of real ownership of the object, previously induced emotions affect the cognitive appraisal object with which people approach a transaction. The emotional attachment is proposed as a moderator of the loss aversion (Areily, Huber and Wertenbroch, 2005) since it can produce a sense of ownership even before the purchase happens (Carmon, Wertenbroch and Zeelenberg, 2003).

2.4.3 Feelings of Ownerships

The traditional factor determines the endowment effect and the effect of loss aversion is the ownership of the object. However, recent study reveals the effect works decides by the

mental identity or cognition of the consumer rather than the fact. The followings are the cases of feelings of ownerships.

Ariely and Simonson (2003) propose a test about the auction bid. In which they found the highest bidders realize they stand in a leading position of the auctions, begin to think ore concretely about the possessing the object and therefore more partially attached to it, called the “pseudoendowment effect.” The theory of option attachment also suggests that during the decision process, the duration of the deliberation causes consumers attached to the objects (Carmon, Wertenbroch and Zeelenberg, 2003). This option attachment leads consumer a sense of prefactual ownership.

Quasi-endowment is another effect due to the attachment of the web-based bid objects (Heyman,Orhun, and Ariely, 2003). The bidder with longer duration time attached more to the object. It causes the bidder the sense of quasi-endowment which increases the willingness of submitting higher prices. Reb and Connolly (2007) also suggest there is not only the factual ownership leads to endowment effect, the feeling of ownership generated by possession of the object also works as well. The matters is not the real ownership of the object, it is the consumer’s cognitively belief of the ownership decides the effect of loss aversion.

2.5 Process-Induced Affect

Process of processing may generate affect, in addition to affective reactions generated by the information itself (Garbraino and Edell, 1997). Affective reactions and processing activities are related, despite whether the final choice is the same, sometimes affect is also generated in the process and it can change the assessment of a new product (Meyers-levy and Tybout ,1989; Stayman, Alden, and Smith ,1992).

Losing an object is an experience of unpleasant, yielding to psychological discomfort which positively colors the valuation of the threaten objects (Pham, Cohen, Pracejus and

Hughes, 2001; Schwarz, 2001). That is, individuals view their feelings as information when they make judgments.

2.6 Summary

So far, research related to the process systems discussed the nature of the two systems (Chaiken and Trope, 1999; Epstein, 1994; Peter and Slovic, 2000; Sloman, 1996; Stanovich and West, 2002). There are also reports about how the process systems would influence the final choice of the decisions (Hoch and Lowensstein, 1991; Hsee and Kunreuther, 2000; Pham et al., 20001; Rottenstreich et al., 2007). Unlike previous work focus on what exact people choose, discussed in this research is the possible consequence effect of using the different systems. To be specifically, the effect results from peoples' attachment on the chosen options.

Articles about attachment discuss the nature of the attachment, such as the formal of attachment between people and specific objects, such as brand, place or product (Bowlby, 1979; Park and Macinnis, 2006). They also discuss the formation of attachment and possible performed action and attitude of people attached to some objects (Gross and Brown, 2006; Garbarino and Johnson, 1999; Slater, 2000; Thomson et al., 2005). Though articles of what causes the attachment is discussed (Carmon and Ariely, 2000; Dhar and Wertenbroch, 2000; Hoch and Loewnstein, 1991), however, the factors they propose is mostly how the presentation of the objects affects. Here we propose the way people decide could alter the strength of attachment.

3. Research Model and Hypotheses

3.1 Operational Definition

Our main purpose of this research is to discover the phenomenon when people try hard to make a more satisfied decision, sometimes after they make their decisions they seem not quite satisfied with their choices. That is, when people using the deliberating and effortful system 2 to make decisions rather than decide via the feeling and fast system 1. To provide a more generally condition, we discuss the effect of cognitive load that impede the cognitive system 2 but not the system 1. Thus, we can discuss when people might use the system 1 and when might the system 2.

3.1.1 Process Systemss

Process systems are the way people absorb, retain and process information stimuli, and have been shown to be influential in the consumer decision process as information acquisition, even the consumer's decision making (Hoch and Lowensstein, 1991; Hsee and Kunreuther, 2000; Luce, 1998; Luce, et al., 1999; Pham et al., 20001; Rottenstreich et al., 2007; Shiv and Fedorikhin, 1999). In this research adopts the two dual-process concept (Rottenstrech, 2007; Sloman, 1996) that distinguish the two systems by speed, controllability, and the contents on which they operate. The system 1 is to employ affected charged, automatic, rapid, parallel, heuristic-based process that are relatively undemanding of cognitive capacity (Kahneman and Frederick, 2002; Stanovich, 2004; Sloman, 2002). In contrast, system 2 is a controlled, rule-based, slow, serial and deliberative and is constrained by working capacity (Giese and Sojka, 1998; De Neys, 2006; Rettenstreich, 2007; Shiv and Fedorikhin, 1999).

3.1.2 Cognitive Load

To manipulate the cognitive busy condition that happened commonly among people, we

use the cognitive load (Rottenstrech, Sood and Brenner, 2007; Shiv and Ferdorikhin, 1999) to examine the moment of cognitive business and its effect on the process systems. Cognitive load is believed to disrupt more conscious, controlled processing without disrupting nonconcious, automatic processing (Gilbert, Pelham and Krull, 1988).

3.1.3 Attachment

The emotional attachment is a relationship-based construct that reflects the emotional bond connecting an individual with a consumption entity, i.e., brand, person, place or object (Park and Macinnis, 2006). And the emotional attachment is also evidenced by, among other things, psychological and behavioral outcomes not typically linked to attitudes: i.e. mourning of its loss (Bowlby, 1979). The emotional attachment is proposed as a moderator of the loss aversion (Areily, Huber and Wertenbroch, 2005) since it can produce a sense of ownership even before the purchase happens (Carmon, Wertenbroch and Zeelenberg, 2003).

3.1.4 Postchoice Discomfort and Changed Attractiveness of Forgone Option

The intention determines whether giving up that good is evaluated as a loss or a foregone gain (Novemsky and Kahneman, 2005).Outcomes as gains and losses depends on the individual's intentions and not the only on the objective state of affairs at the moment of decision, the focus is whether the individual intention can produce or inhibit loss aversion. Losing an object is an experience of unpleasant, yielding to psychological discomfort which positively colors the valuation of the threaten objects (Pham et al., 2001; Schwarz, 2001).

3.2 Research Hypotheses

3.2.1 The Effect of Cognitive Load on Process Systems

Process systems are the way people absorb, retain and process information stimuli, and have been shown to be influential in the consumer decision process as information acquisition, even the consumer's decision making (Hoch and Lowensstein, 1991; Hsee and Kunreuther,

2000; Luce, 1998; Luce, et al., 1999; Pham et al., 20001; Rottenstreich et al., 2007; Shiv and Fedorikhin, 1999). Generally, people commonly can use two distinct process systems, the affective system 1 and the cognitive system 2 (Kahneman and Frederick, 2002). In this research adopts the two dual-process concept (Rottenstrech, 2007; Sloman, 1996) that distinguish the two systems by speed, controllability, and the contents on which they operate.

The system 1 is to employ affected charged, automatic, rapid, parallel, heuristic-based process that are relatively undemanding of cognitive capacity (Kahneman and Frederick, 2002; Stanovich, 2004; Sloman, 2002). In contrast, system 2 is a controlled, rule-based, slow, serial and deliberative and is constrained by working capacity (Giese and Sojka, 1998; De Neys, 2006; Rettenstreich, 2007; Shiv and Fedorikhin, 1999). To manipulate the cognitive busy condition that happened commonly among people, we use the cognitive load (Rottenstrech, Sood and Brenner, 2007; Shiv and Ferdorikhin, 1999) to examine the moment of cognitive business and its effect on the process systems.

Nonetheless, it is difficult to measure the psychological changes of process system. To test the effect of cognitive load, most of related research checks the effect via subjects' behavior or decision (Drolet and Luce, 2004; Drolet, Luce and Simonson, 2007; Giese and Sojka, 1998; Rottenstreich et al., 2007; Shiv and Fedorikhin, 1999). Followed with previous research, to test the effect of cognitive load, we provide subjects a cognitive-favored and an affective-favored choice. We propose that when there is higher cognitive load, people will tend to less appreciate to the cognitive-favored choice since their cognitive system 2 is being impeded. Thus, the first hypothesis is below:

H1: Compare to people with higher cognitive load, those with less cognitive load tend to choose more cognitive-favored options.

3.2.2 The Attachment of the Process Systems

As we know, people made decisions may via two different systems, one is emotionally driven experiential system 1 and the other is rational system 2. It seems that the attachment is connected to the affective system 1 with higher probability. However, deliberate the advantages or constructing mental representations and simulations of each choice alternative can increase the psychological proximity to the options. This kind of prefactual thinking about the choice options might bring could induce the attachment (Carmon and Ariely, 2000; Dhar and Wertenbroch, 2000; Hoch and Loewnstein, 1991). Thus, though the system 1 is affected charged, its process is still relatively rapid. The deliberation of the choice option might be constrained by the decision time. Instead, when individual uses system 2 which is rule-based strategy, slow, serial and deliberative, they spend times on their elaboration of the choice options. Despite the nature of system 2 is relatively cognitive, this elaboration on the advantage the choice option might offer proximate the psychological distance between the individual and the options. Thus, contrary to intuition, the attachment might occur when people using the cognitive system 2 rather than affective system 2. The hypothesis is:

H2: Compare to system 1 processors, system 2 processors tend to generate more attachment for the choice option

3.2.3 The Postchoice Effect of Attachment

Endowment effect describes the perceive value of a specific object differs between sellers and buyers (Kahneman, Knethsch and Thaler, 1990; Kahneman, Knethsch and Thaler, 1991). The dissimilar perceived value was due to the loss aversion effect (Kahneman and Thaler, 1979). It was suggested that the endowment effect did not occurs only in factual ownership (Ariely and Simonson, 2003; Reb and Connolly, 2007). Since the intention could determine whether giving up that good is evaluated as a loss or a foregone gain (Novemsky and Kahneman, 2005), the change in cognitive perspective would plays a role of loss aversion

(Areily, Huber and Wertenbroch, 2005). And the emotional attachment is also proposed as a moderator of the loss aversion (Areily, Huber and Wertenbroch, 2005).

As previous mentioned, individual processes system 2 might generate more attachment to the choice options. Besides, when individual was in the deliberating process, they may meanwhile developing a sense of anticipatory feeling of possession before actually own the option. The prefactual possession of the choice options may render a kind of change of cognition. So, when the attached individuals have to making the decision from the options, choose one out of them seems equal to have forgone the others. Losing an object is an experience of unpleasant, yielding to psychological discomfort (Pham, Cohen, Pracejus and Hughes, 2001; Schwarz, 2001). And the emotional attachment is also evidenced by, among other things, psychological and behavioral outcomes not typically linked to attitudes: i.e. mourning of its loss (Bowlby, 1979). Thus, we believe the attachment individual generated from the deliberating process could cause postchoice discomfort because the attachment moderates the loss aversion (Areily, Huber and Wertenbroch, 2005). The hypothesis is below:

H3: Compare to system 1 processors, system 2 processors tend to perceive higher postchoice discomfort.

3.2.3 Feeling as information

As proposed, we believe that individual processing system 2 might face a feeling of discomfort after they made their decision which infers having to forgone their attached options. Losing an object is an experience of unpleasant, yielding to psychological discomfort and people often view their feelings as information when they make judgment (Pham, Cohen, Pracejus and Hughes, 2001; Schwarz, 2001). This feeling of discomfort is proposed to be positively colors the valuation of the threaten target objects. In general, they suggest individuals infer their evaluation of an item from the accompanying affective state. Applied in

the research, the target objects represent here is the nonchosen options. The discomfort feeling due to lose the nonchosen options could make the nonchosen options being perceived better than the options were before the choice. Thus, we propose that:

H4: Compare to system 1 processors, system 2 processors tend to perceive greater attractiveness of nonchosen options right after choosing.

For more general concept about the research reasoning and the four hypotheses above, please consult the context with the suggesting flow chart 2 presented below.

Chart 2: Research Reasoning Flow Chart

3.3 Research Methodology

To examine the research hypotheses, we conduct empirical studies. Since the attachment can come about in multiple ways and cannot be manipulated directly, we separate the hypothesis via two individual studies.

3.3.1 Study 1

The purpose of the first study is to examine hypothesis 1 which propose the choice proportion. We ask subject to choose from a cognitive-favored choice (salad) and an affective-favored choice (chocolate cake), and separate the subjects into two group for contrast. The usage of chocolate cake and salad as study stimulus is because the effect of cognitive load is related with the subjects' goal. Unlike the goal-related studies, this research is to generally discuss that people occasionally influenced by cognitive loads, our test subject were not specific group. So the study stimulus must satisfy the goals of most of people. Refer

to self-control study which also has the same restricted condition, the concept of self-control dilemma is a suitable stimulus for us to apply here. In a self-control dilemmas, consumers have to choose between options with immediate benefits but delayed costs (leisure goods or relative vices; an affective-favored choice) and options with immediate costs but delayed benefits (investment goods or relative virtues, a cognitive-favored choice; Wertenbroch [1998]). The choice between chocolate cake and salad is also a commonly used self-control dilemma which provides us an affective-favored (tasty) and cognitive-favored (healthy) dilemma choice (Kivetz and Keinan, 2006).

For the nontarget group, we simply give them a story to make them choose between a cake and salad as a side dish of their casual meal. They were asked to make a choice right after the leading story. As for the target group, they were notified that it's a study about memory (Shiv and Fedeorikhin, 1999) to insure that the subject would remember the numbers. So in the beginning of the study, we gave them a nine digit number and ask them to memorize (Shiv and Fedorikhin, 1999; Shiv and Huber, 2000; Ward and Mann, 2000), and we clearly notified the subjects we will ask the recall the numbers later. After the cognitive load manipulation, they read the exact same leading story, and made a choice between the choices.

The target group is further asked to recall the nine-digit number after the choice for the load manipulation check. Meanwhile, to ensure the two groups were actually using relatively different process systems. Both the contrasted groups were answer to a questionnaire about the process system (Hoch and Loewenstein, 1991; Rock and Fisher, 1995; Puri, 1996) and the perceptions about the choices (Crites, Fabrigar and Petty, 1994; Hoch and Loewenstein, 1991). The subjects were asked to indicate the process system via four seven-point items that were presented: My final decision about which snack to choose was driven by, "my thought (1)/my feeling (7)", "my willpower (1)/my desire (7)", "my prudent self (1)/my impulsive self (7)', "the rational of me (1)/the emotional side of me (7)." (noted as the order of pro1-pro4 in the

analysis part) The items to examine how the subjects think about the choice separated into two parts, items are to ask the affection and the following three items are about the cognition, they are presented as a seven-point scale following: “I felt an impulsive to take it”, I felt a strong, irresistible urge to take it’, “The emotional side of me was arouse me to take it”, “It is good for health”, It is beneficial for me”, “It is a wise choice.” (noted as the order of Aff1-Aff3 and Cog1-Cog3 in the analysis part) The final part is descriptive statistic data collections (more details are in Appendix 1).

Finally, we test the hypotheses by examing the proportion of the choice two groups made are significantly different in their choice proportion, we adopt a test of homogeneity of proportions. The following is the formula:

$$x^2 = \mathrm{N}\left[\sum_{i=1}^{I}\sum_{j=1}^{J}\frac{f_{ij}^2}{f_i f_j} - 1\right] \qquad df = (I-1)(J-1)$$

3.3.2 Study 2

The purpose of study 2 is to examine the rest of the hypotheses. That is, examine whether the usage of the process systems would lead the decision makers view the same options differently, in our research, we discuss the attachment induced via the systems. And further, we examine whether the attachment generated due to the process systems and its consequent post-choice effects. Giving the exactly same environment, for example, same brand, same product, same advertisement……,and so on; not everyone will generate the attachment, which is individually different. It comes about in multiple ways, and cannot being manipulated directly. Instead using a real choice for the subjects, we provide scenario-based target and nontarget manipulation descriptions.

We conduct a within subject experiment. All the subjects will view the same scenario. The subjects were clearly informed the study is about a short story, and the following

questionnaire is associated with the story. The scenario contains two parts, the introduction and manipulation descriptions. The purpose of the introduction is to ensure the difference between Ms. A and Ms. B is only the decision process. In the introduction part, the subjects were informed that Ms. A and Ms. B have the same attitudes toward the choice condition and equal attractiveness of the same choice options. The manipulation descriptions are focus on the different process systems. The nontarget Ms. A was described as making her decision via process system 1, and the target Ms. B was described as make her decision via system 2.Using the scenario-based descriptions, we can guard our hypothesis in restricted condition against parsimonious rival explanation. After reading the scenario, the subjects answer a following questionnaire as measurement. The following section is the scenario:

Two people, Ms. A and Ms. B, who do not know one another, are planning their summer trip individually. Both of them accidently consider Paris and New York as the choice options. Ms. A and Ms. B are equally excited about this trip and both find the two destinations equally attractive. The time for taking the road is coming, so they have to make up their minds. Nonetheless, how they make their decision is quite different.

Ms. A merely uses her image and feelings of Paris and New York to make the decision. In her memory, Paris is a beautiful Europe city with famous architecture. And New York is a big, lively city where contains lots of scene showed in the movie. Depends on her feeling and the impressions of the two cities, Ms. A make up her mind fast and just based on her intuition.

Ms. B carefully and deeply considers the sightseeing spots. And wonders what would happen in her trip to Paris or New York. If she going to the leisurable Paris, there is Eiffel Tower where she can climb up and view the whole beautiful city scene. But in New York, she can visit the famous Fifth Avenue. She can walk on the street

and appreciate various buildings and stores……. She keeps considering and comparing the destinations like this. In the end, she spends several days to make the decision before the dead line.

The reason of using the vacation destination as choice base is because the measurements of the attachment are rare. To facilitate a relatively valid measurement, we conduct previous measuring items of place attachment (Gross and Brown, 2006). The attachment items construct the first part of questionnaire: "She will gradually attached to the places during the decision process", "The decision process will cause she to image or wonder when she travel in the places", "During the decision process, she starts to believe it will be a satisfied experience", "During the decision process she feel the travel is gradually important to her", "During the decision process, she felt it will become an inreplaceable experience", "During the decision process, she start to feel sad when she notice she has to forgive one of the choices". (noted as the order of Att1-Att6 in the analysis part) The items were design to separately measure the how the psychologically attached to the choice options Ms. A and Ms. B were. The second part is about the post-choice discomfort and changed attractiveness of the forgone option (Carmon et al., 2003). Before answer the items, the subjects were told Ms. A and Ms. B were made the same final choice, in other words, they forgone the same choice option. The subjects were asked to indicate the effects via three seven-point items that were presented: Her final decision of deciding to Paris instead of New York, how she feels about it, "No at all bothered (1)/Bothered (7)", "Not at all discomfort (1)/Discomfort (7)" (noted as Pcd1 and Pcd2 in the analysis part), New York is "become less attractive (1)/become more attractive (7)." The final part is the descriptive statistic collections (more details are in Appendix 2).

4. Analyses and Results

4.1 Study 1

4.1.1 Results of Pretest

The pretest is conducted with a sample of 59 respondents. The EFA produces 3 factors with eigenvalues all greater than one (see table 4). For study 1, the questionnaire is for the manipulation checks, including whether the stimuli are separately perceived as cognitive-favored and affective-favored and the process systems the two group use.

Most of the Cronbach's α values are over 0.8, which implies good reliabilities of the dimensions. More detailed results are shown in Table 4.

Table 4: Study 1 Pretest Result of Reliability Test

	Component											
	Pro 1	Pro 2	Pro 3	Pro 4	Cog 1	Cog 2	Cog 3	Aff 1	Aff 2	Aff 3	Eigenvalue	% variance	Cronbach's α
1	.854	.814	.892	.884							4.996	49.961	.930
2					.895	.855	.849				1.823	18.228	.896
3								.786	.899	.841	1.297	12.971	.820

*Pro: process system; Cog: perceived cognition of the stimuli; Aff: perceived affection of the stimuli

4.1.2 Formal Investigation

We use the experiment method, the subjects are separated into two group. One is the target group in which the subjects are given the cognitive load manipulation. Another group for contrast is nontarget group, the subjects simply made the choice. All the subjects are asked to make a choice between a dilemma choice, and a followed questionnaire. When they finish filling out the surveys, they are given a gift as a return of the favor. In total, 100 sample are collected and deleted incomplete data, 90 samples are used for analysis (47 for target and 43

for nontarget). The data collection process lasts for 10 days during the beginning of July. Subjects are randomly chosen but we avoid people cannot finish the survey such as children and senior citizens. To get a more general data the questionnaire is distributed in the train station. Part of our experiment requires the subjects to remember the cognitive load. So we also collect data from college campus because students are more willing to cooperate and helpful to the effortful experiment process. The environment of the campus is also more suitable for the experiment which needs subjects to be focus on. The descriptive statistic information showed in table 5. Of the sample, 50% are male and 50 % are female. Age of 20-29 stands for the highest portion (61%). 55 % are student and 18.9 % are office worker.

Table 5: Descriptive Statistics of Study 1

Characteristics	Number	Percent	Characteristics	Number	Percent
Gender			**Occupation**		
Male	45	50%	Student	55	61.1%
Female	45	50%	Professional	7	7.8%
Age			Army and Police	1	1.1%
19 and under	10	11.1%	Office worker	17	18.9%
20-29	61	67.8%	Self-employed	1	1.1%
30-39	10	11.1%	Housekeeper	2	2.2%
40-49	6	6.7%	Others	7	7.8%
50-59	2	2.2%			
60 and above	1	1.1%			

In the formal investigation, we again test the reliability of each dimension in the questionnaire. Including the decision process system, affective perceived and cognitive perceived for the stimuli. The EFA produces 3 factors with eigenvalues all greater than one. Most of the Cronbach's α values are over 0.7 suggesting good reliabilities. More detailed results are shown in Table 6.

Table 6: Study 1 Result of Reliability Test

Component													
	Pro 1	Pro 2	Pro 3	Pro 4	Cog 1	Cog 2	Cog 3	Aff 1	Aff 2	Aff 3	Eigenvalue	% variance	Cronbach's α
1	.914	.704	.934	.940							4.499	44.992	.937
2					.929	.922	.698				2.343	23.427	. 820
3								.811	.892	.709	1.171	11.705	. 747

*Pro: process system; Cog: perceived cognition of the stimuli; Aff: perceived affection of the stimuli

4.1.3 Manipulation Check

Before examine the hypotheses, we examine whether the experiment manipulations is successful. First, we should confirm that the subject view the experiment stimuli as a dilemma between affective and cognitive. We conduct the individual t-test. The examination includes two parts: we first examined whether the H0: $(\sigma 1)2 = (\sigma 2)2$ to examine the variance homogeneity. Next, according the result of the first part, we examine the H0: $\mu 1 = \mu 2$. Our examinations of individual t-test in the rest of the research analyses so on are accordance with the procedure. To be a clearer representation, we only report the results of second step: H0: $\mu 1 = \mu 2$.

As the result reports, the mean of perceived affective (tasty) for chocolate cake is 5.1605 and for salad is 4.7130. The Individual-samples t-test revealed that perceived affective between the choices is significantly different. As for the perceived cognitive (healthy), means of perceived cognitive for chocolate cake is 3.7778 and for salad is 5.4537. The Individual-samples t-test revealed that perceived cognitive between the choices is significantly different. So we can suppose for the subjects they believe the chocolate cake is affective-favored (tasty) and the salad is cognitive-favored (healthy).

Second, we check whether subjects make their decision of the affective-favored and

cognitive-favored choices via the concept of dilemma. We compare the process system items of subjects choosing chocolate cake to subjects choosing salad. As result reports, the mean of chocolate is 5.2500 and the mean of salad is 2.9653. Individual-samples t-test reports a significant difference. The results represent that for subjects who choose chocolate cake, they make their decision is process relatively depend more on system 1. And for subjects who choose salad, the decision process is relatively depending more on system 2. The combined results suggest that for subjects, they know they are making a decision between a cognitive-favored choice and affective-favored choice, and the choice they make is base on corresponded process systems. Thus, the manipulation of dilemma choice is successful.

Final, we referring previous related load studies. To ensure the load manipulation for the target group is successful, we only use the data that subjects report the correct nine-digit numbers (Shiv and Fedorikhin, 1999; Shiv and Huber, 2000; Ward and Mann, 2000). The detail reposts of the manipulation check is in table 7.

Table 7: Study 1 Result of Independent-samples t-Test

	Means of Salad	Means of Chocolate cake	t	*p-value (2-ailed)*
Affective	4.7130	5.1605	2.176	0.032*
Cognitive	5.4537	3.7778	-7.111	0.000***
Process	2.9653	5.2500	8.043	0.000***

Note: * p≦0.05, ** p≦0.01, *** p≦0.001,**** p≦0.0001

4.1.4 Hypothesis Test

Our first proposition is examining whether the cognitive load would impede the process of system 2, thus hypothesize the choice rate of the cognitive-favored salad would less for people with higher cognitive load than people with less load. To test the hypothesis, we conduct a test of. Investigation result reports for the target group which the total 47 subjects

are manipulated with cognitive load, 14 of them choose the salad. For the notarget group, 22 of the total 43 subjects choose the salad. In another word, the choice rate of salad is 29.78% for the target group, and 51.16% for the nontarget group. Consists with hypothesis 1, the Homogeneity of Proportions Test provides statistical significance result. Detailed report is shown in table 8.

Table 8: Study 1 Result of Homogeneity of Proportions Test

	Nontarget		**Target (Load)**	
	Count	%	Count	%
Chocolate Cake	21	48.84%	33	70.22%
Salad	22	51.16%	14	29.78%
total	43	100%	47s	100%
Pearson Chi-Square Value =4.275		*p*-value=0.039*		

Note: * $p \leqq 0.05$, ** $p \leqq 0.01$, *** $p \leqq 0.001$,**** $p \leqq 0.0001$ (2-sided)

4.2 Study 2

4.2.1 Results of Pretest

The pretest sample contains 30 respondents, and 23 are used for analysis. The EFA produces 1 factor, attachment, with eigenvalue all greater than one. The other dimensions are with only one item. The Cronbach's α value for attachment is 0.644, merely marginally significant. The results of compare means related to the hypotheses are quiet undesirable (detail is in table 9). We can see the result of pretest is not ideal, thus we further modified our items and the scenario according to qualitative interview survey. We ask subjects about the experiment in detail. We apply their responds and literature review, modified the statement of the questionnaire items and the presentation mode of the stimuli story. Then propose a final version of the experiment.

Table 9: Study 2 Pretest Result of Individual-samples t-test

	Means of Ms. A	Means of Ms. B	t	*p-value (2-tailed)*
Attachment	4.6087	5.3116	-3.173	0.003*
Postchoice Discomfort	3.7826	3.6522	0.410	0.684
Changed Attractiveness	4.3478	4.0870	0.764	0.449

Note: * $p \leqq 0.05$, ** $p \leqq 0.01$, *** $p \leqq 0.001$,**** $p \leqq 0.0001$

4.2.2 Formal Investigation

Study 2 conducts a scenario-based experiment. The scenario describes two factitious people who individually make decision via two different process systems. After reading the scenario, subjects are informed that there is a following questionnaire related to the scenario. When they finish filling out the surveys, they are given a gift as a return of the favor. We collect the data during the middle of July. The data is collected from the boarding hall of the airport. Data collected in the airport provide us a more general formed data base and the environment is more comfortable and quite than the train station. Further, people waiting for their flights have more extra free time than people catching the train. The factors above compose good condition which makes subjects to be more helpful and concentrate on our survey. The subjects are randomly chosen, but we avoid people who possibly cannot finish the survey such as children and senior citizens.

In total, 109 samples are collected and 103 samples are used for analysis. Of the sample, 42.7% are male and 57.3 % are female. The age of 20-29 stands for the highest portion (42%). For the occupation, 55 % are office worker and 34.3 % are student. More detailed can be viewed in the bellowed table 10. We further test the reliability of each dimension in the questionnaire, Including attachment, postchoice discomfort and decision difficulty. The EFA produces 2 factors, attachment and postchoice discomfort, with eigenvalues all greater than

one. Most of the Cronbach's α values are over 0.7 suggesting good reliabilities. More detailed results are shown in Table 11.

Table10: Descriptive Statistics of Study 2

Characteristics	Number	Percent	Characteristics	Number	Percent
Gender			**Occupation**		
Male	44	42.7%	Student	25	34.3%
Female	59	57.3%	Professional	13	12.6%
Age			Army and Police	1	1.0%
19 and under	6	5.8%	Office worker	39	37.9%
20-29	42	40.8%	Self-employed	4	3.9%
30-39	30	29.1%	Housekeeper	5	4.9%
40-49	21	20.4%	Others	16	15.5%
50-59	4	3.9%			
60 and above	0	0%			

Table 11: Study 2 Result of Reliability Test

Component											
	Att 1	Att 2	Att 3	Att 4	Att 5	Att 6	Pcd 1	Pcd 2	Eigenvalue	% variance	Cronbach's α
1	.544	.799	.763	.798	.792	.544			3.529	44.113	.819
2							.928	.915	1.572	19.649	. 869

*Att: Attachment; Dd: Decision Difficulty; Pcd: postchocie discomfort

4.2.3 Hypotheses Test

The following hypotheses are to examine the relationship between the different process systems and attachment. And we further discuss the effect induced by the prechoice attachments of the choice options. We use a within subjects scenario experiment method. The scenario contains two manipulated individuals making decision separately via the two process systems. The subjects are asked to read the scenario carefully and finish a related following

questionnaire. The subjects respond the questionnaire to each dimension for both the fictitious decision makers (Ms. A and Ms. B). Data reports in table 12.

Attachment

First, we compare responded rating of attachment for the nontarget Ms. A and target Ms. B. The subjects respond with ratings of 7-points scale. The higher the ratings are marked represents higher attachment of the corresponding fictitious decision maker in the question. In the reports, we can see that for Ms. A who processes system 1 to make the decision, the mean of attachment scores 4.5495. For Ms. B, our target who process system 2, the mean of attachment items is 5.4466. We compare the means by the Individual-samples t-test. The result suggests the subjects believe that Ms. B generate more attachment than Ms. A. Consist with hypothesis 2, when individual processes system 2 to make decision, it generates more attachment than individual processes system1.

Postchoice Discomfort

Next we test whether the attached Ms. B would generate more postchoice discomfort than Ms. A. The report of postchocie discomfort suggests that the mean for Ms. A is 3.9709 and for Ms. B is 4.9029. The higher the rating suggests higher postchocie discomfort. And the Individual-samples t-test reveals a statistical significance. As our hypothesis proposes, the result suggests that people processing the system 2 is likely to generate more postchoice discomfort than people processing system 1.

Increased Attractiveness of Foregone Option

For the attractiveness change of the attached option hypothesis, the data report the mean of Ms. A is 4.2233, and the mean of Ms. B is 4.6990. Higher score means higher attractiveness subjects believe the foregone option increased right after choice to fictitious

decision makers. With the Individual-samples t-test report, we can see subject believe that the target Ms. B perceive the forgone option more attractive than Ms. A might perceives. Consist with our hypothesis: people processing system 2 perceive greater attractiveness of forgone option right after choosing than people process system 1.

Table 12: Study 2 Result of Individual-samples t-test

	Means of Ms. A	**Means of Ms. B**	**t**	***p-value (2-tailed)***
Attachment	4.48385	5.3916	-7.386	0.000***
Postchoice Discomfort	3.9709	4.9029	-4.715	0.000***
Changed Attractiveness	4.2233	4.6990	-2.300	0.022*

Note: * $p \leqq 0.05$, ** $p \leqq 0.01$, *** $p \leqq 0.001$,**** $p \leqq 0.0001$

5. Discussion and Implication

5.1 General Discussion

According to the results, we add an empirical evident that process the rational, effortful and slow system 2 is not always ideal than process the affective, effortless and fast system 1. The result of study 1 suggests when people with cognitive load, they tend to make decisions relatively depending on system 1. It is because process system 2 requires cognitive resource, so when the process resource is impeded by the cognitive load, people tend not quite prefer the cognitive-favor options (H1). Although in our research we do not specifically discuss the satisfaction or accuracy of the chosen option, instead, we only discuss the intention that decision maker want to choose the most satisfied or accurate one. Our research results still can render some illustrations opposite to the myth that system 2 can lead to less negative post choice emotion.

According to our research studies, we explore when people process the deliberated system 2 in which they carefully hypothesize the benefits and possible experience of the choice options can offer and rehash the features of the options, they tend to attach to the choice option even before they make the decision (H2). The attachment closes the psychological proximity between the decision maker and the options. The attached people thus develop a sense of prefactual ownership of the options. So when they choose one out of the options, they feel like have to forego the others. For the attached decision maker, the feeling of loss the nonchosen options induces psychological discomfort (H3), and increase the attractiveness of the forgone options (H4). It is interesting that common sense taught us a more satisfied or accuracy choice requires people to take the decision carefully. That is, people willing to execute effort for a more satisfied or accuracy choice and it also can reduce the possible negative emotions (e.g. regrets) after the choice. Yet, result of our studies suggest

that it is the process of deliberating cause the oppositely affection which influence the possible satisfaction of the choice.

The origin purpose for the consumer is to minimize the possible postchoice negative emotion and maximize accuracy, for to achieve the goal, they are willing to forgo the goal of minimize effort. The results add to the limited empirical evidence that choice may be constructive in part due to the consumer metagoals (Bettman et al., 1998). We also can render some empirical evident the impact on the evaluation of process-induced affect (Meyers-levy and Tybout, 1989; Stayman, Alden, and Smith, 1992). Further, unlike previous related research, the effect we discuss here is on the nonchosen option rather than the chosen option.

5.2 Managerial Implication

The result of study 1 provide us that people will process relatively feeling-based system 1 or rational system 2 based on the cognitive load. When people with higher cognitive load, the cognitive system 2 will be impeded more, so they deicide more rely on their feelings. The cognitive load can be various kind of forms, such as time-pressure or memory-based decision (Dhar, Nowlis and Sherman, 2000; Rottenstreich, Sood and Brenner, 2007), so it is quite a common effect that can be widely applied. According to the result of study 2, we can see that when people process the deliberating decision process, they tend to generate the attachment toward the choice option. Thus, when they choose from one of the options, they feel uncomfortable and sense the forgone option seems more attractive. We can see that when people would use the fast and feeling-based system 1 or the cognitive and deliberative system 2 and the consequences of too much deliberating.

According to the results, we can apply them to varied aspect, for instance, advertising. Attention-demanding ads sometimes interfere with consumers' consideration of relevant goals. Despite the options people choose, the underlying process systems are also relevant to their

decisions. Information and informational-emotional advertising appeals, which matches consumers' processing style can generate more positive attitudes toward the brand, purchase intention and brand choice (Ruiz and Sicilia, 2004). Understand where or when the consumer process the different decision systems, can provide to a more effective advertising. For example, when people with cognitive load, they tend to process the feeling-based system, if the marketers can propose affective-based advertising, the impression could be more effective than information-based advertising. Applied to the transportation issue, government tries hard to encourage people use more public transportation. Though the public transportations are friendly to the environment and ease the traffic jam problem, the private car or motorcycle is much more convenient and controllable. That is public transportation is relative cognitive-favored and the private transportation is relative affective-favored. So when w want to encourage people to use the public transportation, the promote advertising would be more effective when people with less cognitive load.

Though when people with less load, they tend to generate more attachment to the option because the deliberating decision process. Marketer can prevent the undesirable effect via understating when or how the effect occurs to take prevention previously. One possible way is to cue consumers the cut the evaluations separately, using the concept of self-serving bias, people might blame the occurrence of postchoice discomfort is due to themselves rather than the product or firm. Consumer preference and their psychological condition can induce various effects that are hard to predict, and still need further discovery. More active is to prevent the negative effect of the postchoice discomfort, we can base on characteristics of the products or services to propose corresponding strategies. For example, if the products cost not to high or are complemental with each other, the marketer can propose a promotion set of bundle when consumer is dealing with the negative mood of choosing from the attached options. With little discounts of the bundle, people could possibility buy more and be more

satisfied with the deal.

5.3 Limitations and Future Research

5.3.1 Limitations

The first limitation in this research is we examine the mediation role of postchoice discomfort without validity test. The concept of attachment and its consequent effect is relatively psychological and abstract, so they are hard to be measured directly, and the associate items are rare. Refer the previous researches, our items asked a general feelings, thus the items is not sufficient to process CFA test. Though lack of validity, to get a first step of examination, we still conduct mediation test to check the proposal could be true or not. To examine the degree of mediation (Baron and Kenny's, 1896), we first regress postchoice discomfort on the independent variable attachment (dummy coded for the target vs. nontarget; link b; tb=2.300*), regress attractiveness changes on attachment (link a; ta=4.715***). Secondly, we regress attractiveness changes on both attachment and discomfort (link c; tc=0.002*, ta'=0.219). The mediation chart is shown in chart 3 and the result is presented in table 13. The result suggests postchoice discomfort full mediates attractiveness changes of the foregone option. Another limitation is we do not process a real choice test. To process a real choice of our theory requires recruiting subjects for a more noninterference environment. Restricted by the time and budget, we only conduct a scenario-based experiment.

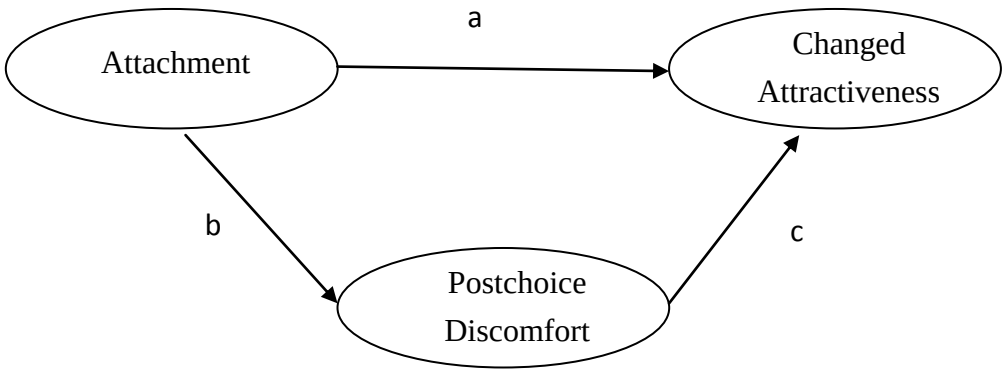

Chart 3: The Mediation of Postchoice Discomfort

Table 13: Result of Mediation Test

Description of Test: ***Postchoice Discomfort*** *generated from forego attached options as a mediator of the relationship between attachment and Changed Attractiveness*

	Step 1		**Step 2**		
Predictor	Att→Pcd (a)	Att→Atr (b)	Pcd→Atr (c)	Att→Atr (a')	Conclusion
	0.314 (0.000***)	0.159 (0.022*)	0.227 (0.002*)	0.088 (0.219)	Full Mediation

Note: * $p \leqq 0.05$, ** $p \leqq 0.01$, *** $p \leqq 0.001$,**** $p \leqq 0.0001$
*Att=Attachment; Pcd=Postchoice Discomfort; Atr=Changed Attractiveness

5.3.2 Future Research

Our first suggestion for the future is to explore other postchoice discomfort such as choice difficulty. Due to the choice difficulty, people less confident to their final decision. Thus after their make the choice, they may question the option they choose which further induce psychological discomfort and the later effects. Second, we only discuss the condition that people deliberate on the advantages of the choice options. It can apply to as under an approach-approach conflict choice (Lewin, 1933; Miller, 1944). Future research can also examine the contrasted equilibrium: avoidance-avoidance conflict choice in which people may trade-off on the options negative features.

Third, research can discover the individual characteristic could moderate the effects. Such as, for high need for individual people (Cacioppo and Petty, 1982), could the effect psychological discomfort loom larger on them or they can avert it by their rational cognition. The last suggestion is to examine the effect of the psychological discomfort can last. Since we only discuss the moment right after the choice is made. Applied to the concept hot emotion or wistful feeling (Kivetz and Keinan, 2006), examining the nature of the psychology affective is helpful to understand how long it can last.

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Appendix 1: Study 1-Load v1

您好：

這份問卷的目的僅為學術分析之用，您所填答的各項資料絕對不會外流也無關對錯，非常感謝您的支持與協助。

交通大學運輸科技與管理學系

中華民國 99 年 7 月

※ 本研究是針對人的**記憶力**所進行的實驗，等一下問卷發放人員會給您看幾個文字，請把它牢牢記住，您要記住這些字才能成為一份有效的問卷，此測驗主要是檢驗人的記憶力，請努力記住您所看到的文字，稍後問卷將會請您填答那些文字，現在請通知問卷發放人員您已閱讀完此段落 (先不要翻頁)：

Appendix 1: Study 1-Load v1

請閱讀以下的情境，並想像您是故事中的主角

您正在一家您常去的店用餐，正當您點好您的主菜時，老闆告訴您，因為您時常到這間店消費，他今天想要送您一個附餐以感謝您平常對這家店的照顧。

選擇包括了**生菜沙拉**以及**巧克力蛋糕**，於是您便面臨到一個有點衝突的抉擇。因為生菜沙拉可以為您帶來**營養均衡的好處**的選擇，雖然巧克力蛋糕沒有生菜沙拉那麼健康，但是巧克力蛋糕會你一個很**享受的飯後甜點**。

＊我的決定是：□ 生菜沙拉　　□ 巧克力蛋糕

＊請寫出您剛所記住的內容：

1. 您剛剛做了個選擇，請根據問題圈選兩邊方向哪邊比較偏向您的選擇方式：

＊我的選擇是:

根據理性思考過的結果 ← 1 2 3 4 5 6 7 → 依憑感覺評斷的結果

＊我能做出這決定是：

用我的意志力控制的 ← 1 2 3 4 5 6 7 → 順從我的渴望

＊我做出這個決定是：

用我的理性認知判斷 ← 1 2 3 4 5 6 7 → 依我的感覺做出判斷

＊我覺得做出這個決定是根據：

我理性的部分 ← 1 2 3 4 5 6 7 → 我感覺的部分

2.以下問項**不必依情境狀況**回答，請**以您自身真實感覺**回答即可：

		非常不同意	不同意	稍微不同意	普通	稍微同意	同意	非常同意
1.	在選擇時，我有想要吃我最後選的附餐的衝動	①	②	③	④	⑤	⑥	⑦
2.	在選擇時，我最後選的附餐讓我有很想要吃它的慾望	①	②	③	④	⑤	⑥	⑦
3.	我會有等不及想要享用我最後決定附餐的感覺	①	②	③	④	⑤	⑥	⑦
4.	我覺得我選的附餐對健康是有幫助的	①	②	③	④	⑤	⑥	⑦
5.	我認為我選的附餐對我的身體是有益的	①	②	③	④	⑤	⑥	⑦
6.	以客觀的角度來說，我最後的選擇是一個比較明智的選擇	①	②	③	④	⑤	⑥	⑦
7.	我喜歡吃巧克力蛋糕	①	②	③	④	⑤	⑥	⑦
8.	我喜歡吃生菜沙拉	①	②	③	④	⑤	⑥	⑦

【個人基本資料】

1.您的性別： □ 男 □ 女

2.您的年齡為： □ 19 歲以下 □ 20-29 歲 □ 30-39 歲 □ 40-49 歲
□ 50-59 歲 □ 60 歲以上

3.您的職業為： □ 學生 □ 教師 □ 軍警 □ 上班族
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問卷到此結束，煩請您再檢查一次有無遺漏的地方。
再次感謝您的支持，謝謝！

Appendix 1: Study 1-Load v2

您好：

這份問卷的目的僅為學術分析之用，您所填答的各項資料絕對不會外流也無關對錯，非常感謝您的支持與協助。

交通大學運輸科技與管理學系

中華民國 99 年 7 月

※ 本研究是針對人的**記憶力**所進行的實驗，等一下問卷發放人員會給您看幾個文字，請把它牢牢記住，您要記住這些字才能成為一份有效的問卷，此測驗主要是檢驗人的記憶力，請努力記住您所看到的文字，稍後問卷將會請您填答那些文字，現在請通知問卷發放人員您已閱讀完此段落 (先不要翻頁)：

Appendix 1: Study 1-Load v2

請閱讀以下的情境，並想像您是故事中的主角

您正在一家您常去的店用餐，正當您點好您的主菜時，老闆告訴您，因為您時常到這間店消費，他今天想要送您一個附餐以感謝您平常對這家店的照顧。

選擇包括了**巧克力蛋糕**以及**生菜沙拉**，於是您便面臨到一個有點衝突的抉擇。因為您覺得巧克力蛋糕會是一個很**享受的餐後甜點**，雖然生菜沙拉沒有巧克力蛋糕那麼可口，但是生菜沙拉卻可以為您帶來**營養均衡的好處**。

＊我的決定是：□ 巧克力蛋糕　　□ 生菜沙拉

＊請寫出您剛所記住的內容：

1. 您剛剛做了個選擇，請根據問題圈選兩邊方向哪邊比較偏向您的選擇方式：

＊我的選擇是:

根據理性思考過的結果 ← 1 2 3 4 5 6 7 → 依憑感覺評斷的結果

＊我能做出這決定是：

用我的意志力控制的 ← 1 2 3 4 5 6 7 → 順從我的渴望

＊我做出這個決定是：

用我的理性認知判斷 ← 1 2 3 4 5 6 7 → 依我的感覺做出判斷

＊我覺得做出這個決定是根據：

我理性的部分 ← 1 2 3 4 5 6 7 → 我感覺的部分

2.以下問項**不必依情境狀況**回答，請**以您自身真實感覺**回答即可：

	非常不同意	不同意	稍微不同意	普通	稍微同意	同意	非常同意
1. 在選擇時，我有想要吃我最後選的附餐的衝動	①	②	③	④	⑤	⑥	⑦
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3. 我會有等不及想要享用我最後決定附餐的感覺	①	②	③	④	⑤	⑥	⑦
4. 我覺得我選的附餐對健康是有幫助的	①	②	③	④	⑤	⑥	⑦
5. 我認為我選的附餐對我的身體是有益的	①	②	③	④	⑤	⑥	⑦
6. 以客觀的角度來說，我最後的選擇是一個比較明智的選擇	①	②	③	④	⑤	⑥	⑦
7. 我喜歡吃巧克力蛋糕	①	②	③	④	⑤	⑥	⑦
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＊我的決定是：□ 生菜沙拉　□ 巧克力蛋糕

1. 您剛剛做了個選擇，請根據問題圈選兩邊方向哪邊比較偏向您的選擇方式：

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7. 我喜歡吃巧克力蛋糕	①	②	③	④	⑤	⑥	⑦
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1　2　3　4　5　6　7

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4. 我覺得我選的附餐對健康是有幫助的	①	②	③	④	⑤	⑥	⑦
5. 我認為我選的附餐對我的身體是有益的	①	②	③	④	⑤	⑥	⑦
6. 以客觀的角度來說，我最後的選擇是一個比較明智的選擇	①	②	③	④	⑤	⑥	⑦
7. 我喜歡吃巧克力蛋糕	①	②	③	④	⑤	⑥	⑦
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模擬情境：

互不認識的 A 小姐與 B 小姐各自規畫了她們暑期要出遊的計畫，她們不約而同的都選了巴黎以及紐約做為考慮的兩個地點。

她們兩個人對於此次的旅行都感到一樣的期待和興奮，兩人也覺得巴黎與紐約給她們的吸引力是相等的。出發的日期近了，她們還是必須在兩者之間選出一個。不過她們做決定的方式卻大不相同。

A 小姐憑著過去對於紐約以及巴黎的印象及感覺做出決定，她記憶中巴黎就是漂亮的歐洲城市，好像有許多有名建築。然後紐約就是一個很熱鬧的大城市，有很多知名景點常常在電影裡出現。最後她根據她對兩者有的記憶與印象，以她的直覺很快的做出這個決定。

而 B 小姐她很仔細深入地思考了有關巴黎與紐約的景點以及去這兩個地方旅行的可能情況。去了悠閒的巴黎的話，仔細想想那裏有艾菲爾鐵塔，她可以登上艾菲爾鐵塔眺望美麗的巴黎市景等。若去很有活力的紐約，有出名的第五大道，在那裏她可以欣賞各式各樣的建築與店家...。於是她想了好幾天才趕緊做出決定。

Appendix 2: Study 2

您好：

這份問卷的目的僅為學術分析之用，您所填答的各項資料絕對不會外流也無關對錯，非常感謝您的支持與協助。

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請以剛剛閱讀的情境故事為基礎，回答本問卷的問項

第一部分：此部分是有關 A、B 兩人可能在**做出選擇前**可能因不同的選擇過程影響她們對此次旅行地點的看法，請根據情境故事填答各問題的同意程度：

		非常不同意	不同意	稍微不同意	普通	稍微同意	同意	非常同意
1.	A 小姐的選擇過程會讓她產生在巴黎及紐約旅行的想像畫面	①	②	③	④	⑤	⑥	⑦
2.	**B 小姐**的選擇過程會讓她產生在巴黎及紐約旅行的想像畫面	①	②	③	④	⑤	⑥	⑦
3.	A 小姐會因為她的選擇方式而在過程中逐漸對巴黎及紐約產生了感情	①	②	③	④	⑤	⑥	⑦
4.	**B 小姐**會因為她的選擇方式而在過程中逐漸對巴黎及紐約產生了感情	①	②	③	④	⑤	⑥	⑦
5.	A 小姐相信無論去巴黎及紐約，在選擇過程中她會開始感到這將會是一趟滿足的旅程	①	②	③	④	⑤	⑥	⑦
6.	**B 小姐**相信無論去巴黎及紐約，在選擇過程中她會開始感到這將會是一趟滿足的旅程	①	②	③	④	⑤	⑥	⑦
7.	在 A 小姐的選擇過程中，她會感到這次旅行對她來說可能是越來越重要的	①	②	③	④	⑤	⑥	⑦
8.	在 **B 小姐**的選擇過程中，她會感到這次旅行對她來說可能是越來越重要的	①	②	③	④	⑤	⑥	⑦

Appendix 2: Study 2

		非常不同意	不同意	稍微不同意	普通	稍微同意	同意	非常同意
9.	在 A 小姐的選擇過程中，她會逐漸覺得這將會是一趟不容易被取代的旅程	①	②	③	④	⑤	⑥	⑦
10.	在 **B 小姐**的選擇過程中，她會逐漸覺得這將會是一趟不容易被取代的旅程	①	②	③	④	⑤	⑥	⑦
11.	A 小姐在選擇的過程中想到將要放棄其中一個地點是會難過不舒服的	①	②	③	④	⑤	⑥	⑦
12.	**B 小姐在**選擇的過程中想到將要放棄其中一個地點是會難過不舒服的	①	②	③	④	⑤	⑥	⑦

第二部分：以下部分是有關 A 與 B 兩人**做出決定當下**的問題，請根據情境判斷 A、B 兩人在不同的選擇方式下可能會帶來的感覺：

1. A 小姐 最後決定去巴黎，對於 **沒有選擇去紐約** 她可能會覺得：

完全沒有困擾 ←——|——|——|——|——→ 有困擾的感覺

沒有感覺

2. **B 小姐** 最後決定去巴黎，對於 **沒有選擇去紐約** 她可能會覺得：

完全沒有困擾 ←——|——|——|——|——→ 有困擾的感覺

沒有感覺

3. 最後決定去巴黎的 A 小姐 對於 **沒有選擇去紐約** 可能會覺得：

沒有不舒服的感覺 ←——|——|——|——|——→ 有不舒服的感覺

沒有感覺

4. 最後決定去巴黎的 **B 小姐** 對於 **沒有選擇去紐約** 可能會覺得：

沒有不舒服的感覺 ←——|——|——|——|——→ 有不舒服的感覺

沒有感覺

5. 在 A 小姐做出去巴黎的**選擇當下**，與選擇之前相比紐約對她來說似乎：

吸引力變低了 ←——|——|——|——|——→ 變得更有吸引力

沒有差別

6. 在 **B 小姐**做出去巴黎的**選擇當下**，與選擇之前相比紐約對她來說似乎：

吸引力變低了 ←——|——|——|——|——→ 變得更有吸引力

沒有差別

第三部分：請根據情境及選擇方式回答 AB 兩人對最終選擇的看法

	非常不同意	不同意	稍微不同意	普通	稍微同意	同意	非常同意
1. 依照 A 小姐選擇方式她可能會對她的決定感到後悔	①	②	③	④	⑤	⑥	⑦
2. 依照 **B 小姐**選擇方式她可能會對她的決定感到後悔	①	②	③	④	⑤	⑥	⑦

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1. 您的性別： □ 男 □ 女
2. 您的年齡為： □ 19 歲以下 □ 20-29 歲 □ 30-39 歲 □ 40-49 歲 □ 50-59 歲 □ 60 歲以上
3. 您的職業為： □ 學生 □ 教師 □ 軍警 □ 上班族 □ 自己開業 □ 家管 □ 其他

問卷到此結束，煩請您再檢查一次有無遺漏的地方。
再次感謝您的支持，謝謝！

簡　歷

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學歷：

民國 99 年 9 月　國立交通大學運輸科技與管理學系碩士班畢業

民國 97 年 6 月　國立交通大學運輸科技與管理學系畢業

民國 93 年 6 月　國立桃園高級中學畢業

民國 90 年 6 月　桃園縣立竹圍國民中學畢業

民國 87 年 6 月　桃園縣菓林國民小學畢業