
ATTENTION IN ADVERTISERS BRAND PROCESSING - A Theoretical Essay on the Attention Levels and its Implications in Terms of Influence on the Individual Consumer Memory

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ABSTRACT

Most of the exposures to brand ads take place under mere exposure when these stimuli are available in the environment, but they are not processed consciously by the individual, but unconsciously, through the pre-attention. Nevertheless, studies on the effects of exposure to ads have focused the reception of conscious processes as well as the explicit measurement of this record. In light of the above mentioned, the study target of this theoretical essay is the attention process in the brand advertisers processing, involving the use of a literature review focused on the following conceptual foundations: processing perspective; theories of attention and evolution; attention process as a complex construct (pre-attention and attention); and record of information (explicit and implicit memory). It becomes evident that different levels of attention addressed to the processing, result in different ways of the stimuli record, influencing not only the way they are perceived and stored, but also the way they are interpreted and valued.

Keywords: *types of processing; process of attention; pre-attention; effects of the attention influence*

1 INTRODUCTION

Most of the exposures to brand ads take place under mere exposure conditions, in other words, when these stimuli are available in the environment, but are not necessarily processed in an active way by the individual at the conscious level (Fang, Singh Ahluwalia & 2007). In such conditions, the stimuli are, even so, processed, but automatically, without the effort and/or the awareness of the individual who receives the stimulus, a process called pre-attention (Janiszewski, 1993). Examples of this context occur daily in the individuals lives: reading journal articles, but also processing the ads; browsing the internet looking for pages of interest, but also processing the ads (banners) exposed in its surrounding regions; among others.

This can be justified by three main reasons. First, in many situations, people's attention is focused elsewhere (target-objects) not on these ads, which characterizes these stimuli as secondary information or simply information that are not being sought by the individuals (Janiszewski, 1993). Second, the limited capacity of cognitive resources demands that attention be directed and focused only on target-stimuli, leaving the other stimuli available in the environment for a second-level of processing, with lower capacity (Shapiro, MacInnis & Heckler, 1994). And finally, due to the media revolution and spread, which diversify the information sources, as well as expands exponentially their propagation capacity (faster, easier and less time), the stimuli saturation context is increasingly constant, which compete for the receiver attention (Bauman, 2001).

Nevertheless, the studies about the effects of exposure to ads have been carried out within the field of cognitive models of information processing, focused primarily on the conscious processes of stimuli reception (Yoo, 2005). Thus, the attention is usually erroneously approached only as an exclusively conscious process, aiming only at the perspective of selective attention, disregarding thus, the pre-attentive process. As a consequence, it is also found a misguided assessment of the effects coming from the stimuli reception, mainly analyzed in relation to the explicit memory of the receivers, to the detriment of the implicit effects of this processing, such as implicit memory and value judgment (Milosavljevic, 2007).

In light of the above mentioned, the study target of this theoretical essay is the attention process in the stimuli reception. For such it was resorted to a literature review, allowing the construction of a theoretical framework focused on the following conceptual foundations: processing perspective (conscious, subliminal and pre-attention); theories of attention and its evolution; the attention process as a complex construct, subdivided into pre-attention and attention; memory types (explicit and implicit) and their differences in terms of influence on the individual who receives the stimuli, according to the level of addressed attention.

2 PROCESSING PERSPECTIVES

Considering that the evidence that stimuli not realized consciously are actually processed unconsciously, the traditional model of processing appears as insufficient to study the stimuli reception (Janiszewski, 1993). Thereby it is highlighted the need of research efforts aimed at understanding and distinguishing the conscious processing from the unconscious' stimuli.

In order to enlighten this issue, Shapiro, MacInnis and Heckler (1994) propose a classification of three major perspectives of information processing: conscious, subliminal and pre-attentive, as shown in Table 1.

Table 1
Processing types

PROCESSING	CONSCIOUSNESS	RESPONSIBILITY
Conscious	Yes	Issuer
Subliminal	No	Issuer
Pre-attentive	No	Receiver

Source: Adapted from Shapiro, MacInnis & Heckler, 1994.

Shapiro, Heckler and MacInnis (1997) propose a classification of three major perspectives of information processing: conscious, subliminal and pre-attention.

In the conscious processing the individuals direct their focus of attention to certain specific stimuli. Thus, individuals are fully aware of the information being sent, as well as of the content they are receiving. The studies carried out within this perspective generally analyze the effects of different types of approach in the consumer responses to the ads, considering variables such as the appeal used (humor, drama, etc.), the way the messages are exposed, the colors adoption criteria among others (YOO, 2005).

The other two perspectives happen unconsciously, that is, the individuals are not aware of the incoming stimuli. Among the unconscious perspectives, there is the pre-attentive processing. This process deals with the stimuli that are processed when the individual focus of attention is not directed at them, but in other information of the environment (Janisweski, 1993). This usually happens with stimuli considered secondary, in other words, stimuli that do not appeal to the individual or are not properly relevant to the receiver. Thus, it can be observed that, in such cases, all the stimuli are available for the reception and the conscious processing by the individuals, but they are the ones who decide in which stimuli they want to focus their attention, processing them consciously, and leaving the remaining to be processed pre-attentively.

Also featured as an unconscious perspective, the subliminal processing consists of the presentation of the stimuli intentionally below the capacity of the receiver's perception. In order to make it possible, the emission source should display the stimulus either very fast or much distorted, preventing the conscious processing. So, even if the receiver wants to process the information, by driving his focus of attention to it, he fails to do so, once the issue does not allow the information to be processed consciously (Bornstein, 1989). In that sense, different from the pre-attentive processing, in which individuals decide in which stimuli they will drive their conscious processing, it is said that the emitting source is responsible for the lack of awareness about the stimuli received, in these cases, because the emitting source intentionally discloses stimuli subliminally, so that neither the emission nor the stimuli become known by the receivers. Therefore, more important than testing the effects on the receiving audience, it is found in the literature a great ethical discussion about this issue (Yoo, 2005).

Having this ethical dilemma in view, it was opted by not including the subliminal processing perspective in the study scope of this work, focusing thereby the conscious and pre-attentive perspective, discussed in terms of the attention process.

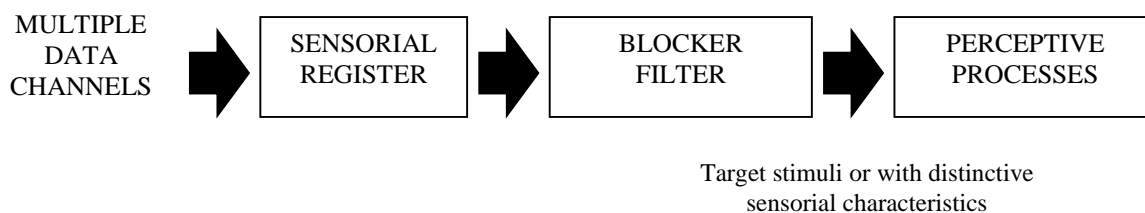
3 THEORIES OF ATTENTION

The first theory of attention was proposed by Broadbent in 1958, and posits that information is immediately filtered after being registered by the sensorial organs (Sternberg, 2000). That is, according to Broadbent, multiple input channels of sensorial data comes to an attentive filter, which selects only one of these channels, allowing it to reach the perception processes, on which it will then be assigned a meaning or significance (Bundesen, 2000).

Accordingly, the theory proposes that attention operates as a selective and blocker filter located between the sensorial record and the perceptive process, which permits the passage of only one target-stimulus channel (Sternberg, 2000). Being so, in addition to the chosen target-stimuli, only stimuli with very distinctive sensorial characteristics, (such as higher noise), could pass through the attention filter and go on to the perception processes (Maunsell & Cook, 2002). As a consequence, all other stimuli present in the environment considered as irrelevant or out of tune are discarded.

Regarding the pre-attentive process, Broadbent says this process is responsible for the identification of stimuli that would come to be selected by the focus of attention, using, for this, a sweeping of the characteristics and physical properties of stimuli (Sternberg, 2000). That is, to this theory, the pre-attentive processing has its capacity limited only to the physical analysis of stimuli, postponing the semantic analysis for higher cognitive processes, with the focus of attention (Illustration 2).

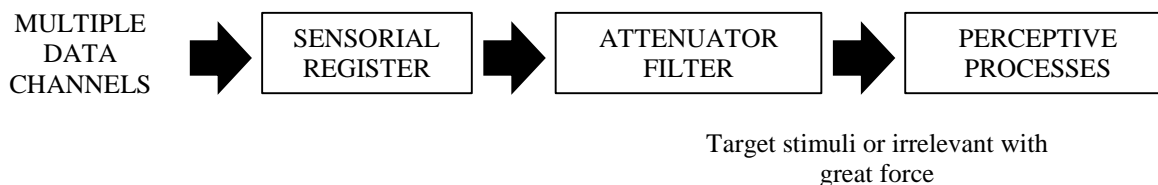
Illustration 1 - Attentive filter theory of Broadbent (1958)



Source: Adapted from Sternberg, 2000.

With the criticism that powerful or noteworthy messages (such as the individual's name) could transpose the filter of attention and get to the perception, it arises, in 1960, another theory of attention, organized by Treisman (Sternberg, 2000). The Treisman's theory argues that, instead of the attention works as a filter which blocks the input of irrelevant or out of tune stimuli, it works as a filter which attenuates the strength of these stimuli (Bundesen, 2000). In other words, this theory proposes that the information cannot be blocked in the sensorial level, so that some irrelevant or out of tune information with greater force can pass through an attenuator filter, even in a weakened version (Illustration 3).

Illustration 2 – Filter theory of Treisman (1960)

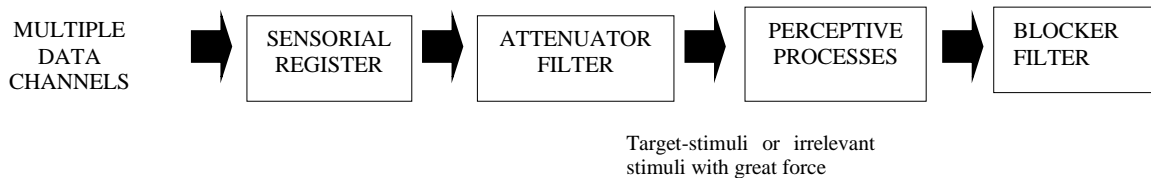


Source: Adapted from Sternberg, 2000.

In 1963, Deutsch and Deutsch also suggest a complement to the Treisman's theory: besides the attention works as an attenuator filter between the sensorial record and the perceptive processes, there is another filter, being this one a blocker, after the perceptive processes (Bundesen, 2000). Thus, this later blocker filter serves to assess the irrelevant or out of tune stimuli that pass through the attenuator filter: if these stimuli make perceptive sense, they are stored; if not, they are discarded (Illustration 4).

This theory also highlights the pre-attention role as preliminary to the attention-making process, analyzed information of which, would serve as a basis for the subsequent process of selective attention. However, the theory advances in the assessment of the capability of the pre-attentive processing, considering it not only able to accomplish the physical analysis of the environment stimuli, but also to use an examination of greater complexity, also analyzing the stimuli semantically (Sternberg, 2000).

Illustration 3 – Theory of attentive filter of Treisman (1960) and Deutsch and Deutsch (1963)



Source: Adapted from Sternberg, 2000.

The literature on the attention processes adopts, in general, the theory proposed by Deutsch and Deutsch (Shapiro, MacInnis & Heckler, 1994; Monin, 2002; Lee & Labroo, 2004; Yoo, 2008), also used in this study. Following these assertions, it will be started the study of the attention process, raising the differences between the pre-attention and the attention.

4 THE ATTENTION PROCESS

Much of what is potentially capable of reception by the sensorial organs is not clearly noticed or even detected. This means that, although there is a world of available stimuli, two situations are commonplace when it comes to the stimuli reception: a lot of information do not even enter in our processing being not detected by the sensorial organs; and another large portion is detected and received, but processed unconsciously (Shapiro, Heckler & MacInnis, 1997).

In this sense, Wolfe (1994) it is estimated that at each every second, the human eye receives about 100 million sensorial data that are transmitted to the optic nerve. However, Rigo (2008) indicates that among these millions of recordings carried out daily, only a tiny percentage is consciously fixed. That is, before a context of stimuli saturation - that expands when considering the reception by the other sensorial organs – and in face of the limited capacity of the cognitive capabilities of individuals, the conscious processing of all available information turn to be an impossible task (Sternberg, 2000).

Thus, a selection of the most relevant stimuli turn to be necessary, so that they can be processed at a slower rate and with greater depth, with the attention making process (Yoo, 2008). The remaining stimuli, not selected consciously, are swept unconscious and involuntary, a process called pre-attention (Shapiro, Heckler & MacInnis, 1997).

Therefore, the stimuli processing can happen basically in two different stages (Neisser, 1967; Treisman & Gelade, 1980). The first refers to the pre-attention or pre-attentive processing, when a rapid and general sweeping of all the stimuli present in the environment is carried out, being characterized by an extraction in parallel and without the mobilization of attentive resources (Rossini & Galera, 2008; Rodrigues, Jablonski & Assmar, 2008). Then it begins the attentive process, which uses the serial mobilization of the attention focus in order to perform a slower and specific sweeping of the environment, requiring, for this, higher cognitive resources (Rossini & Galera, 2008; Rodrigues, Jablonski & Assmar, 2008).

That is to say that the pre-attention performs a preliminary work analyzing all the stimuli present in the environment, so that, later, based on this information, the attention is enabled to drive its focus of analysis. When the individual reads a magazine page, for example, the pre-attention examines all the stimuli contained in the page quickly and generalized. With this information, the attention is directed to the individual's interest stimulus, usually the main subject. The other areas, perimetral areas, do not receive the focus of attention, and continue to be processed in a pre-attentive way.

Following this reasoning, the study will address, first, the pre-attentive processing and subsequently will step into the theories of attention and selective attention.

4.1 Pre-attention

The pre-attention study started to be developed due to evidence that information that are available to individuals, but are ignored by them, may in fact be processed, even if not consciously (Shapiro, Heckler & MacInnis, 1997). That is, the fact that the individual decides not to pay attention to particular information does not mean it is not processed by him, but instead it will be processed even if he is not aware of the fact, in a pre-attentive way. More importantly it emerge evidences that the stimuli pre-attentive processing can influence the judgment and valuation of individuals and may impact even more than the conscious processing (Bornstein & D'Agostino, 1994; Janiszewski, 1993; Yoo, 2008).

In that sense, even before the attention is activated, the stimuli processing by the individuals, already occurs, in a pre-attentive way. So prior to the attention taking, the pre-attentive processing carries out a general sweeping of all available stimuli, quickly and automatically (Janiszewski, 1993). Actually the pre-attention not only precedes the attention making, but also provides the analytical basis for its direction and its selection focus (Rodrigues, Jablonski & Assmar, 1992). That is, the pre-attentive process is responsible for investigating all stimuli available in the environment, identifying which of them are relevant for further detailing. Equipped with these results the attention can be activated, directing and concentrating its efforts on the selected stimuli. For this reason Wolfe and Horowitz (2003) suggest that pre-attentive process should actually be named pre-selective process of attention.

In accordance with Janiszewski (1993), the pre-attentive process is characterized by a parallel processing, i.e. the pre-attention carries out a general analysis together with all available stimuli to the sensorial organs. In this processing stage, there is no concern in distinguishing the relevant stimuli from the irrelevant ones, being all of them processed at the same time (Janiszewski, 1993). In addition, the pre-attentive processing occurs automatically, with neither the intentional effort of the individuals nor the possibility of control by themselves (Wolfe & Horowitz, 2003). Thus, the pre-attention is characterized by a faster encoding process, which requires few cognitive resources (Yoo, 2005).

It is important to point out that the pre-attention can lead both to the processing of the characteristics, features and traits (*features processing*) as well as to the semantics and meaning (*semantic processing*) of the stimulus (Shapiro, Heckler & MacInnis, 1997). That is, there may be both, the encoding and the recording of the physical characteristics set out in the stimulus, as well as the activation and retrieval of the stimulus meaning and its representation stored in the memory.

A frequently recurring approach in the literature devoted to the study of pre-attentive processes is based on the theory of mere exposure, initially proposed by Zajonc, in 1968 (Mandler, Nakamura & Van Zandt, 1987; Janiszewski, 1993; Lee, 2001; Yoo, 2008 ; Fang, Singh Ahluwalia & 2007). According to this theory, the mere exposure of an individual to a particular stimulus, in other words, the simple availability of such stimulus in an environment so that it can, in the future, be noticed (even without him being serviced by the focus of attention), is capable of causing effects, whether implicit or explicit (Zajonc, 1968). In that sense, the theory of mere exposure states that, regardless of the way of processing occurred in these stimuli reception, or even if they will be processed actively by the brain, the stimuli that are available for access impact and influence the receiver. Similarly, some authors use the term incidental exposure (Shapiro, 1999; Acar, 2007) to study the effects of mere exposure to a particular stimulus.

Although many scholarly studies have been carried out about the effects of the mere exposure or incidental exposure, few are those that address the cognitive factors involved in this effect, such as the level of processing and the cognitive capacity intended for the task, being difficult to find articles that indeed discuss and talk about the role of the pre-attention in this process (Milosavljevic & Cerf, 2008; Yagi, Ikoma and Kikuchi, 2009). Actually, among the more than two hundred articles written on the subject (Bornstein, 1989), it have been found less than ten studies that actually work with the construct of pre-attention (see Shapiro, Heckler & MacInnis, 1994; Janiszewski, 1993; Yoo 2005, 2008; Milosavljevic, 2007; Cerf & Milosavljevic, 2008).

Being so, as discussed previously, the pre-attentive processing of the stimuli can result in two different situations: they are either served later by the attentive processing, by directing the focus of attention or they are ignored by the attention, continuing to be processed in a pre-attentive way.

4.1.1 Effects of the pre-attentive process influence

The pre-attentive process, when sweeping the visual environment as a whole, raising both, relevant and irrelevant stimuli, records and stores a record of all the information analyzed, which can be used for future reference (Janiszewski, 1993). Thus, Mandler, Nakamura & Van Zandt (1987) argue that the pre-attentive process interferes

in any judgment subsequent to the stimulus, influencing the way it is perceived, valued and interpreted, as well as the way in which its record will be stored.

There is a literature consensus regarding the effects of the pre-attention fluency in the subsequent processing (Shapiro, Heckler & MacInnis, 1997; Sternberg, 2000; Monin, 2002; Yoo, 2008). In accordance with Janiszewski (1993) when performing a general sweeping of the environment, the pre-attentive processing records a mental representation of the analyzed stimuli which functions as a certain preparation of the brain for processing future stimuli.

The fluency effects (*perceptual and conceptual fluency*) in tasks subsequent to the previous exposure are characterized by the facilitation of the establishment and activation of the stimulus in the memory, also increasing the chances of future processing or retrieve in a later situation (Monin, 2002). This means that, because the brain were exposed to stimulus in a pre-attentive way earlier, it will store a record of this stimulus (mental representation) and, the next time that it come across this stimulus, it will find it easier to process it.

This fluency is based on the *priming* effect, which denotes the increase in capacity or in the ease of the individuals in processing the remaining stimuli due to a previous exposure, or even to perform subsequent tasks using the previously seen stimulus (Sternberg, 2000). An example of *priming* used in the literature is the facilitation found in the tasks of completing words (similar to hangman): individuals end up using words to which they were previously exposed to, even without being aware of it (Shapiro & Krishnan, 2001; Labroo & Lee, 2004).

In that sense, the effects of fluency and *priming*, work not only to facilitate and to speed up all other subsequent processing, but also to increase the probability and effectiveness of these processes (Yoo, 2008).

In addition, Tversky & Kahneman (1974) use the term Availability Heuristics (*availability heuristic*) to denote the ease with which the stimulus can be brought to mind. The authors explain that, when faced with more demanding tasks that require higher level of processing, individuals end up employing a limited number of heuristic principles in order to simplify these judgments. These principles stem from learning experiences based on past personal experiences, usually a result of several processes of trial and error.

Thus, the Availability Heuristic consists in a simplification of the process by using a shortcut: it relies on the knowledge that is easily accessible rather than seeking and examining other alternatives (Tversky & Kahneman, 1974). In this line of thought, Lee & Labroo (2004) state that individuals generally consider the valuation of a stimulus not only in the information that are available about it, but also - and especially - in the accessibility of this stimulus, i.e. based on the ease with which associations or interpretations come to mind.

As a result of these ease effects in the processing, the stimulus happens to be more valued as positive, even if this occurs implicitly, without the individual intent or awareness (Zajonc, 1968). As a consequence, the stimulus happens to be interpreted as more attractive or enjoyable, pre-ordered condition for a future preference (Janiszewski, 1993).

Furthermore, because the individual has been previously exposed to the stimulus, the next time he faces it, he ends up developing feelings of intimacy and closeness, due to a sense of familiarity assigned to this stimulus (Janiszewski, 1993). This familiarity becomes even more evident since, without having awareness of the previous exposure, the individual is not able to justify the reasons why the stimulus' feeling seems to be so familiar to him (Yoo, 2005).

This sense of familiarity, coupled with the preference for the stimulus, facilitates the incorporation of the stimulus to the individual consideration set, increasing the chances of it being accepted at a future time of decision-making (Shapiro, Heckler & MacInnis, 1997; Holden & Vanhuele, 1999). So the authors propose that, when activating the stimulus in the memory and facilitating its access, the probability that this stimulus is included in the individual consideration set is increased. This stems from the attempt to minimize the effort involved in decision-making: when choosing a stimulus that seems to be more positive, it contributes both, to speed up the decision-making process (reducing the time spent) as well as to make it more effective (making less use of cognitive resources) (McDonald & Sharp, 2003).

The individual consideration set consists of the stimuli set that will be considered in a future decision making, usually representing only a fraction of the sum of all the stimuli available (Hauser & Wenerfelt, 1990). In that sense, the authors argue that this set also differs from the individual awareness set, since it includes only a part of all the stimuli the individual is aware of. Reilly & Parkinson (1985) postulate that this inclusion of the stimulus

in the individual consideration set is a necessary condition for the future stimulus selection and implementation of the decision.

Campbell & Keller (2003) argue that, when exposed to familiar stimuli, consumers are more likely to update the previous knowledge stored in the brain. In addition, according to the authors, in these cases the risk perceived by consumers is smaller, making greater the probability of a more favorable stimulus processing, in other words, these familiar stimuli are processed with less resistance or rebuttal arguments from receivers. While the resistance deals with the ability of an individual to react and/or defend from possible attempts of persuasion, the counter-argument refers to active engagement of the individuals in producing or raising arguments that weaken or reject these attempts (Eagly & Chaiken, 1993).

The low predisposition for resistance or rebuttal arguments by the receivers is also evidenced by the way of reception and pre-attentive processing of the stimuli. That is, as the pre-attention happens in an unconscious, automatic and uncontrollable way, the individual is unable to ignore or even defend themselves from the pre-attentively processed stimuli, being at the mercy of the effects of such processing (Janiszewski, 1993; Yoo, 2008).

4.1.2 Explanatory models of pre-attention influence effects

The explanation about the effects of influence of pre-attentive processing has found ramifications in the literature, of which the main models are presented: Incorrect Attribution (*Misattribution*) (Jacoby, Kelley & Dywan, 1989; Bornstein & D'Agostino, 1994); Uncertainty Reduced (*Uncertainty Reduction*) (Bornstein, 1989); Hedonic Fluency (*Hedonic Fluency*) (Winkilman & Cacioppo, 2001); Response Competition (*Response Competition*) (Harrison, 1968; Matlin, 1971); Opponent Process (*Opponent-process*) (Harrison, 1977).

According to the Incorrect Assignment Model (*misattribution*), as individuals have no awareness of their previous exposure to a given stimulus and therefore are unable to explain the reasons for the positive assessment, they mistakenly interpret or attribute the ease/fluency of this stimulus processing to a favorable response by such stimulus (Jacoby, Kelley & Dywan, 1989; Bornstein & D'Agostino, 1994). That is, the model postulates that, due to the lack of individual's awareness, he fails to adequately judge the stimulus, giving it - mistakenly - a greater favorability.

The Uncertainty Reduction model (*uncertainty reduction*) argues that there is a general preference of the individuals by stimuli that are predictable, statement sustained on the conception that the greater the predictability of a stimulus, the lower the perception of risks involved in it (Bornstein, 1989). So, with the previous exposure to the stimulus, a greater degree of familiarity is assigned to the stimulus, making it more predictable. Being more predictable, the stimulus is less associated with possible risks, and thus it becomes more likely to be better estimated.

In turn, the model of Hedonic Fluency (*hedonic fluency*) proposes that the preference judgments for the stimulus may result from two different situations (Winkilman & Cacioppo, 2001). The first is that, with the processing fluency, the individual experiences a sense of reward that results from the processing ease and from the coherence experienced in his thoughts. The second situation is that, by giving the stimulus a sense of familiarity, a comfortable situation is signaled by associating a lower possibility of risks. That is, the stimulus happens to be assessed more positively either by the feeling of reward or by the feeling of comfort experienced by individuals.

The Response Competition model (*response competition*) postulates that the exposures to a stimulus, along with several other available stimuli incite a variety of responses possibilities in the individual (Harrison, 1968; Matlin, 1971). Within this variety, each specific stimulus competes with the others so that a response is produced, which leads to a discomfort felt by the individual (Harrison, 1968; Matlin, 1971). Thus, the model states that, with previous exposure, one or more responses are strengthened and get dominance before the others which, in turn, will weaken and disappear. Thus, the competition for the answers is reduced, eliminating the feeling of discomfort, which helps the individual likes better of the stimulus to which he was previously exposed.

Finally, the Opponent Process model (*opponent-process*) argues that when a stimulus produces an emotive response, its removal causes an effect that has repercussions on the emergence of an opposing response / opposite to the initial emotion (Harrison, 1977). When a stimulus is first seen, being therefore unfamiliar, the first reaction of the individual in relation to it is often negative due to the possible presence of feelings of fear, risk or displeasure. Thus, this model states that the previous exposure to a stimulus weakens this initial negative response to it. In doing so, the effect opponent to negative response is strengthened, with positive effects and affection being associated with the stimulus.

Table 2
Explanatory models of the pre-attentive processing effects

MODEL	EXPLANATION
Incorrect Assignment	Individuals mistakenly attribute the processing fluency to the stimulus favorability.
Uncertainty Reduction	Prior exposure increases the predictability of the stimulus, reducing the risks perceived by individuals.
Hedonic Fluency	Prior exposure leads to a comfortable situation (sense of familiarity with the stimulus); The processing fluency generates reward situation (ease and coherence in processing).
Response Competition	Prior exposure reduces competition between the varieties of answers opportunities, eliminating the feeling of discomfort.
Opponent Process	Prior exposure weakens the initial emotional (negative), strengthening its opposite effect (positive response).

Source: Based on Jacoby, Kelley & Dywan, 1989; Bornstein & D'Agostino, 1994; Bornstein, 1989; Winkilman & Cacioppo, 2001; Harrison, 1968, 1977; Matlin, 1971.

To complete the topic of pre-attentive processing, a summary table of the outlined discussions was drawn up, in which it is presented the features, the processes involved, influence effects, implications and explanatory models of the pre-attention.

Table 3
Study summary of the pre-attention

CHARACTERISTICS	In parallel, automatic, fast, general; Unconscious, inflexible and uncontrollable; Low demand on cognitive resources
PROCESSES	Fluency; <i>Priming</i> ; The heuristic of availability; Accessibility;
EFFECTS	More positive (good, attractive, enjoyable, Preference; Intimacy and close proximity, Familiarity, Set of consideration; Lower risk; More favorable; Lower resistance or rebuttal arguments; Enhanced influence
IMPLICATIONS	Individual is unable to resist or counter-argue the information
MODELS	<i>Misattribution</i> or Incorrect Assignment; Uncertainty Reduction or Reduced Uncertainty; <i>Hedonic Fluency</i> or Hedonic Fluency ; <i>Opponent-process</i> or Opponent Process <i>Response Competition</i> or Response Competition

Source: Based on authors discussed in this topic.

4.2 Attention and Selective Attention

The attention is conceptualized, in a general way, as a consciously oriented response to a given specific stimulus (Yoo, 2008). The attention consists of the possession taking by the mind in a clear and vivid way, of some of the much information available in the environment for future reception by the individual (James, 1890). Also for de Weerd (2003) the attention refers to the type of processing through which a limited amount of information compared to many in the environment, are processed actively and consciously.

From these definitions, it is inferred automatically the character of selectivity of the attention, conceptualized as selective attention: to focus actively and effectively on some information implies moving away from the other stimuli (Sternberg, 2000; De Weerd, 2003). Thus, given the limited capacity of the cognitive resources, Sternberg (2000) argues that the phenomenon of the attention selectivity provides a better use of these cognitive resources by the individuals: when decreasing the attention on many of the stimuli - both external (sensations) as well as internal (own thoughts and memory) - the individual manages to focus on the considered relevant stimuli. With this directed focus, it is greater the probability that a quick and accurate response is produced for the stimuli considered relevant, also increasing the probability that these records are stored and, in the future, activated in the memory (De Weerd, 2003).

Recurrent in the literature is the use of the spotlight metaphor to explain how selective attention operates: the light (attention) can be focused or totally directed to an area of interest, leaving throughout the rest of the environment in the shade, not focused (Sternberg , 2000). This is to highlight the stimuli considered as the most interesting ones to the detriment of other available stimuli that are ignored or processed with less emphasis (Eysenck, 1995). Furthermore, the metaphor helps at the proportion of attention addressed to the stimuli, that is, the more focused on certain stimuli, particular and well-defined, the greater the strength of the light (attention); on the other hand,

the broader the object of the focus, the more diffuse and weaker the lighting (attention) addressed to it (Eysenck, 1995). It becomes necessary to point out that, these stimuli which are not focused, even not capturing the target of conscious attention, can be processed in a pre-attentive way, as discussed in the previous topic.

5 INFORMATION RECORD

Studies carried out around the memory suggest that the information record depends on the type of task performed by the individual differentiating the storage according to the processing complexity used and the procedure required for retrieval: explicit or implicit (Yoo, 2008).

Explicit memory is characterized by a conscious retrieval of some recollection from a past moment, when the individual intentionally starts a retrieval process of previously stored information (Shapiro & Krishnan, 2001). Thus, the metrics used to measure the explicit memory usually employ direct methods, i.e. it is used measures that make direct reference to a past event, requiring that the individuals have the conscious intention to demonstrate that they can remember of a particular fact (Yoo, 2005).

In the context of stimuli reception, the explicit memory is usually investigated through the individuals' ability to evoke the stimulus previously presented or recognize it in face of distractors stimuli (Milosavljevic, 2007).

As this is a conscious retrieval, the explicit memory is allocated to more detailed processes that require higher cognitive ability, as in the case of the conscious processing, with directed focus of attention (Yoo, 2008). However when processing with less cognitive capacity, as in the case of pre-attention, it is expected that this memory is not evident, since the record happens in an unconscious way.

Implicit memory is regarded to the automatic retrieval of previously stored information, not demanding, for this, the conscious recall of information or explicit return of experience (Shapiro, 1999).

Implicit memory is inferred when there is an improvement in individual performance in certain subsequent task related to the prior exposure and record of the stimulus, or a facilitation enabling that to occur (Yoo, 2005). Another possible inference is the greater probability of further use of information seen previously, which may even result in changes in the preferences of the individuals (Shapiro and Krishnan 2001).

Since there is neither intentional nor conscious effort for direct retrieval of the remembrance in such cases it is usually used metrics without direct reference to prior exposure, investigating possible effects of fluency or *priming* or analyzing changes in the individual attitudes towards the target stimulus (Shapiro, Heckler & MacInnis, 1997).

In this sense, the literature suggests that the *priming* effect will happen due to the prior exposure in both processing levels, both, with the taking of conscious attention, as well as with the pre-attentive processing.

Regarding the stimulus assessment in a general way (positive, familiar and purchase intention), the literature advocates that the judgment of the receiver is better when there is no awareness of the individuals about the prior exposure (pre-attentive processing) than when they are aware of it (attentive processing) (Bornstein & D'Agostinho, 1994).

This happens because in the case of pre-attention, as it is an unconscious process, the individual is not able to assign the ease felt when processing the stimulus to his prior exposure, failing in justifying the reason for considering the stimulus more positive or more familiar (Zajonc 1968; Janiswesi 1993; Shapiro, Heckler & MacInnis, 1997). In the case of attentive processing, the individuals, being aware of the stimulus and their prior exposure, engage in a process of conscious correction of the positive assessment, interpreting and revising the fluency in the stimulus processing.

In addition to the conscious correction process, the receiver also uses two other mechanisms to defend himself from the issuance that he is receiving: resistance and rebuttal arguments. The resistance is the ability of an individual to react and / or defend himself from possible attempts of persuasion, resisting or rejecting the information he is receiving (Eagly & Chaiken, 1993). The rebuttal arguments, in turn, refer to the active engagement of the individuals in producing or raising arguments that weaken or refute these attempts (Eagly & Chaiken, 1993).

The low disposition for resisting or rebuttal arguments by receivers is also evidenced by the way of reception and the stimuli pre-attentive processing. That is, as the pre-attention happens in an unconscious, automatic and

uncontrollable way, the individual is incapable of ignoring or even to defend himself from the pre-attentively processed stimuli, being at the mercy of the effects of this processing (Janiszewski, 1993; Yoo, 2008).

6 FINAL CONSIDERATIONS

The recording of processed information by the individual depends on the complexity of the processing used, varying according to the cognitive capacity designed to the task. Different types of processing (according to the allocated attention) result in uneven ways of recording processed information. More specifically, the level of attention directed to stimuli available in the environment influences not only the way they are perceived and stored, but also the way they are interpreted and assessed by individuals (Andreoli, Veloso & Batista, 2013).

In this sense, the construct of attention must be worked under a complex perspective, discussing, not only the exclusively conscious process, the decision-attention taking, but also spanning the pre-attentive processing, its characteristics and its role in the stimuli reception. Following this reasoning, also the analysis of the effects resulted of the directed attention level must be broad, not focused only on the explicit memory of individuals, but also considering the implicit memory and the stimuli assessment.

The mere exposure to certain stimuli is able to influence the receivers also in relation to their affective judgments, even if they are not aware about this process (Yoo, 2008). Thus, the importance of pre-attention is not restricted to its influence on the subsequent process of taking attention and direction of focus to those stimuli considered relevant (Sternberg, 2000). More than that, the pre-attention, when sweeping the available entire visual field in a prior exposure, is capable of creating a bias of subjective judgments regarding the stimuli, providing misleading records and false inferences, such as greater attractiveness or familiarity, that influence in the valuations assigned to the stimulus (Janiszewski, 1993). Evidences of these effects of pre-attention were previously detected in papers related, in which the study's participants began to consider the stimulus to which they were previously exposed in: more true statements, more valid arguments or problems easier to be solved (Jacoby, Dywan & Kelley, 1989); more attractive stimulus (Moreland & Zajonc, 1976), more enjoyable (Lee, 2001) or more familiar (Yoo, 2005).

Some authors also advocate that the pre-attentive processing is able to impact more deeply the receivers than when the processing happens with higher levels of attention. This happens because in the first case, individuals are not aware of the prior exposure and therefore they are not able to interpret the positive assessments assigned to the stimulus. However, in the case of higher level of processing with the awareness of the prior exposure, the positive assessments assigned to the stimulus may undergo a correction process in which the facility / fluency experienced by the individuals in the processing is reviewed and interpreted (Bornstein & D 'Agostino, 1994).

The layout of the ads in flashier places, where it is more likely to draw the attention of the individual, is usually closely contested and costly, which prevents its practice by most companies. The study raises the discussion about the effectiveness of alternative strategies of brand exposure, with the layout of ads in more perimetral regions or even in saturation contexts, with less prominence. This strategy would allow the stimuli to be processed and it would also influence the individuals, albeit unconsciously, at a reduced cost. Examples include ad exposure in *indoor* media, sponsorship in making soccer teams shirts and also the *product placement*, i.e. the insertion of products in movie scenes or television programs, techniques increasingly used by marketing.

In addition, the study also raises a discussion on the possibility of brands disclosure that can be able to impact the receiver with less difficulty. As the pre-attention is characterized by an unconscious process, the receiver has no resistance capacity or rebuttal arguments when processing the stimulus that is exposed to him. Thus, the stimulus finds no conscious opposition of the receiver. This is especially important for dissemination of brands that do not have a good market acceptance, and perhaps already count on consumers predisposed to resist or deny the information arranged in the ads. Knowing whether these brands with a history of negative judgment by the public consumer would be better valorized in the pre-attentive process is configured as a possible future study topic.

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