AN APPROACH TO THE AUTOMATICITY OF EVALUATIVE JUDGMENTS: THE IMPLICATIONS OF AFFECTIVE MISATTRIBUTION IN SOCIAL COGNITION

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El papel que desempeñan los procesos implícitos en los juicios evaluativos es objeto central de la investigación en psicología cognitiva. La presente revisión tiene como objetivo profundizar en las implicaciones del concepto de automaticidad evaluativa para la cognición social, con especial énfasis en los errores en la atribución afectiva, y las teorías de la cognición corporizada. Con este fin, se recapitulan los hallazgos más relevantes en estos fenómenos y se proponen posibles líneas de aplicación fuera del laboratorio. Se concluye que los errores en la atribución afectiva se encuentran operativos en diversos aspectos de la cognición social, por lo que entender su funcionamiento puede ser de mucha utilidad para ciertos ámbitos sociales aplicados.
Palabras clave: Automaticidad, Juicios evaluativos, Cognición social, Embodiment.

The automatic nature of evaluative judgments and, in particular, the role of implicit processes in this type of response is a central theme in cognitive psychology. The purpose of the present review is to explore the implications of the automaticity concept in social cognition, with a special emphasis on two well-documented phenomena: affective misattribution and embodiment. With this aim, we review the most relevant findings in this area, and we propose potential lines of application outside the laboratory. We conclude that affective misattribution is operative in several domains of social cognition, which suggests that our daily life can benefit substantially from a better understanding of how our implicit mind works.
Key words: Automaticity, Evaluative judgments, "Misattribution", Social cognition, Embodiment.

The statement that evaluative judgments ("I like it" or "I don't like it", "it's good" or "it's bad") are made based on the characteristics of the object or perceived situation seems easy to assume. For example, if you consider that something is "good", it is because you have weighed up the pros and cons of the situation and concluded that the former outweigh the latter. If a test is perceived as "very difficult" it is because the content of the questions requires great analytical effort. Put another way, when we make evaluative judgments we feel that our responses are founded on information that is relevant to the situation, but is it really so?

Bargh (1994) proposed that all psychological processes involved in human cognition must be understood as a *continuum* ranging from fully automatic processes (rapid, uncontrolled, efficient and usually subconscious) to completely controlled processes (slower and more easily separated from perception). While the distinction between the two types of process is an academically accepted fact (Kahneman, 2012), it should be noted that the concept of automaticity is unquestionably complex, in the sense that the nature of the factors involved in this type of process is an issue for academic discussion (Moors, 2016). In relation to automatic cognitive processes, it is important to note that although various automated processes are generated by the perception of physical stimuli from the outside world –such as the immediate formation of

impressions based on physical characteristics-, others are the result of the perception of internal bodily states. These "preconscious" automatic processes (Bargh, 1989) cover diverse aspects of our psychology such as implicit attitude formation, the generation of stereotypes, consumer behavior, embodiment or moral cognition (see also Bargh, Schwader, Hailey, Dyer, & Boothby, 2012).

Certainly within the modern cognitive sciences, the possibility that most of our evaluative responses are based on preconscious automatic psychological processes seems to prevail in the academic arena. Indeed, understanding the interaction between implicit processes and "visible" cognitive responses has been a topic of great empirical interest in the field of cognitive psychology, to the point that, in recent years, various studies on this subject have increased our understanding of how this type of process works.

ERRORS IN COGNITIVE AND AFFECTIVE ATTRIBUTION: THEORY AND EVIDENCE

One of the principles of Gestalt theory (contiguity) indicates that stimuli perceived in spatial or temporal proximity are often perceived as related (Heider, 1958). Elevated to a more sophisticated level of cognition, this principle seems to remain operational when our mind assumes that the cognitive responses experienced in a given situation are "about" the stimuli perceived in temporal contiguity. Higgins (1998) argues that there is a principle of "aboutness" operating in implicit cognition: the human mind does not interpret cognitive responses as an accidental product; on the contrary, these responses are understood as "about" something, and this "something" is inferred as the cause of the cognitive response.

Consequently, cognitive responses are often perceived as informative in themselves. For example, if a person experiences fear, the experience of this emotion is automatically interpreted as the answer to "something" that is consciously perceived, and that "something" is treated as the cause of the experience of fear. However, empirical evidence suggests that in fact situations in which we are not aware of the real factors that influence our evaluations are very common. In the same vein, some authors believe that introspective access to certain cognitive processes is virtually impossible, because the human mind is not able to deal with all the stimuli that influence cognitive responses (Nisbett & Wilson, 1977).

So occasionally it happens that certain perceptual experiences are detached from their original context and end up exerting influence on both the subsequent information processing and the behavioral responses derived from it. This peculiarity has been addressed as part of the phenomenon of distorted cognitive attribution, according to which our mind attributes cognitive responses to stimuli that are consciously perceived rather than those that are inaccessible to consciousness (Paéz & Carbonero, 1993; Rohr, Degner, & Wentura, 2015).

In this context, evaluative responses appear to be especially susceptible to the influence of metacognitive factors. For example, there is evidence that the level of difficulty with which the information is processed can be perceived as informative in itself, thus influencing the evaluation process. Reber and Schwarz (1999) found that when certain statements were presented in a clearly visible way they were judged to be truer than when they were presented in a moderately visible way. In this line, McGlone and Tofighbakhsh (2000) found that when a series of aphorisms were presented rhythmically, they were judged as truer than when they were presented without rhythm. In addition, it appears that arguments that are easy to remember are more influential than those that are more difficult to remember (Haddock, Rothman, & Schwarz, 1996; Wänke & Bless, 2000), and that discrepancies in the ease with which information is processed influence the severity of moral judgments (Laham, Alter, & Goodwin, 2009).

Indeed, the fact that increasing the fluidity with which information is processed results in more positive evaluations –rather than providing more polarized judgments in general– suggests that some metacognitive experiences could involve a hedonic component. In other words, information that is processed fluidly seems to be accompanied by a positive affective response, which has the ability to influence evaluations of preference (Reber, Winkielman, & Schwarz, 1998; Rubin, Paolini, & Crisp, 2010; Winkielman, Schwarz, Fazendeiro, & Reber, 2003). Following the principle of Higgins (1998), it can be said that the positive affective reaction that accompanies the metacognitive experience (in this case, the ease with which the information is processed) is perceived as "about" the information and in turn it is attributed to the object being evaluated.

Errors in affective attribution in the context of evaluations of preference have been –and continue to be- studied using different conceptual frameworks within cognitive psychology. Schwarz and Clore (1983) proposed the perspective of "affect as information", according to which the human mind uses all relevant criteria available as information when making an evaluation. Specifically, the studies carried out based on this theoretical framework suggest that the human mind tends to make evaluations of virtually every perceived object "consulting" the feelings available at the time of the evaluation. For example, in ambiguous or difficult situations we might ask ourselves implicitly: *How do I feel about this?* (Schwarz, 2011).

Therefore, this perspective understands that feelings themselves are a source of information. Thus, the fact that it is sometimes difficult to distinguish between integral feelings (those generated by the perceived stimulus) and incidental feelings (ones that are not generated by the properties of the emotional stimulus) is a starting point for the explanation of this phenomenon. For example, judgments in which there is hedonic congruence between the person's mood ("happy") and the verdict of the judgment ("positive") can occur because the incidental state of mood is wrongly attributed as part of the overall evaluation of the object. In other words, the human mind often interprets incidental affective reactions as if they were integral affective reactions.

AUTOMATICITY, EMBODIMENT AND SOCIAL COGNITION

Research on automatic evaluative processes has proved particularly fruitful in the field of embodied cognition (academically known as "embodiment"). In this framework, the theories of embodiment argue that complex cognitive processes are fed information from our body, establishing a psychological correspondence between specific physical experiences and more complex social cognitions (Meier, Schnall, Schwarz, & Bargh, 2012; Olivera La Rosa & Rosselló, 2013).

Therefore, this perspective assumes that sensory, motor or perceptual processes have the ability to influence cognitive, affective and behavioral responses. Indeed, the enthusiasm that this research seems to have generated in academia has led to the production of various studies, which (for the most part) from a more "descriptive" than "explanatory" perspective have produced dramatic results.

For example, it has been documented that adopting postures associated with approach behavior generates more positive judgments than adopting postures involved in avoidance behavior (Cacioppo, Priester, & Berntson, 1993). Similarly, the action of backing off physically increases the tendency towards controlled information processing (Koch, Holland, Hengstler, & van Knippenberg, 2009). Physical distance also appears to be related to emotional distance: participants in whom the concept of "physical proximity" had been activated reported a greater intensity in their negative responses to a topic of discussion than those participants in whom the concept of "physical distance" had been activated (William & Bargh, 2008b). Wells and Petty (1980) found that the simple act of making head movements (nodding and shaking the head) had the ability to influence the evaluative judgments of participants in a way that was consistent with the hedonic component of the movement made (positive and negative, respectively).

In a classic study, Bargh, Chen, and Burrows (1996) found that mentally activating the concept of "rudeness" in the participants increased their tendency to interrupt an experiment, whereas activation of the concept of "old age" influenced the way they walked. Specifically, it made the participants walk more slowly as they left the premises of the experiment. However, it is prudent to

note that the strength of the effects of embodiment on cognition and behavior has been questioned by some authors (Pashler, Coburn, & Harris, 2012). In particular, recent results suggest that these effects are highly sensitive to the influence of situational variables belonging to the experimental context (Cesario, Plaks, Hagiwara, Navarrete, & Higgins, 2010; Doyen, Klein, Pichon, & Cleeremans, 2012).

The influence of moral cognition in embodiment has been a topic of particular interest over the last decade. There are several studies that suggest that when we think in terms of moral purity and impurity there is indeed a physical correspondence with these states. For example, Zhong and Liljenquist (2006) found that when participants reminisced about immoral actions from their past, they showed a greater interest in cleaning products, and a greater willingness to use them. In the same study, the authors found that the feeling of physical cleanness reduced the negative affective experience involved in perpetuating immoral behavior. In the same vein, it was documented that the preference of the participants for hygiene products for the mouth or the hands was susceptible to experimental manipulation, which consisted of inducing them to lie orally or in writing (Lee & Schwarz, 2010).

The influence of embodiment in moral cognition has been reinforced by a series of studies that suggest that the severity of moral judgments is affected by the experience of physical disgust. Indeed, the experience of disgust induced by post-hypnotic suggestion (Wheatley & Haidt, 2005), disgusting smells (Schnall, Haidt, Clore, & Jordan, 2008) and flavors (Eskine, Kacinik, & Prinz, 2011) automatically increased the severity of moral judgments. The evidence even suggests that the incidentally-induced experience of disgust increases prejudice towards people with homosexual orientations (Dasgupta, DeSteno, Williams, & Hunsinger, 2009; Inbar, Pizarro, & Bloom, 2011). In addition, Skarlicki, Hoegg, Aquino and Nadisic (2013) found that the perception of a disrespectful interpersonal interaction (which undermined one's dignity) generated responses characteristic of repugnance, both in victims and observers of the conduct.

As mentioned above, the interest in documenting bodily-cognitive connections seems to have imposed itself over the need to explain the mechanisms involved in these phenomena. However, it should be noted that while there is no academic consensus to explain the influence of embodiment in cognition, there are various positions on the matter (with different nuances). On the one hand, while some authors claim that bodily responses facilitate the accessibility of abstract concepts and therefore are sufficient to generate cognitive and behavioral effects (Chandler & Schwarz, 2009), other authors argue that the corporeal component is necessarily involved in different aspects of cognition (Barsalou, 1999; Wilson, 2002).

The research into the automatic component of embodiment has been complemented with research carried out on the effects of appraisal in other domains of cognition (Lerner & Keltner, 2001; Han, Lerner & Keltner, 2007). Within this framework, emotions are understood as affective responses linked to specific cognitive valuations (appraisals) that reflect the core meaning of the emotional event (Lazarus, 1991). Moreover, the specific patterns that constitute the appraisal of each emotion have the ability to influence evaluative judgments in a manner that is consistent with the characteristics of the cognitive patterns involved (Horberg, Keltner, Oveis & Cohen, 2009).

For example, it has been documented that exposure to threatening factors increased the sensitivity of the population to perceive danger signals, thus favoring the occurrence of fear responses (Bar-Tal, Halperin, & Rivera, 2007; see also Halperin, Sharvit, & Gross, 2011). Lerner and Keltner (2000, 2001) found that the predisposition of certain individuals to experience fear or anger is a differentiating factor in the evaluation of risk. Thus, while the former had a tendency to make pessimistic evaluations, the latter opted for optimistically biased evaluations. These results are consistent with the appraisal of both emotions: while the emotion of fear is associated with appraisals of uncertainty, the emotion of anger involves individual control of the situation (Smith & Ellsworth, 1985).

In the same vein, a central component of the appraisal of anger is the attribution of agency. For example, while a certain undesirable event will cause the emotional response of anger if it is perceived as caused by others (attribution of agency) the same event will generate sadness if it is perceived as being caused by uncontrollable circumstances (Scherer, 1999). Indeed, Keltner, Ellsworth and Edwards (1993) found that participants who were exposed to an induction of anger showed a greater tendency to evaluate a series of negative events as being caused by others, while the induction of sadness caused the same events to be attributed to situational factors. It even seems that the subliminal perception of facial expressions of the two emotions generates a similar effect on the attribution of agency (Yang & Tong, 2010).

THE AUTOMATICITY OF EVALUATIVE JUDGMENTS: PRACTICAL IMPLICATIONS

Indeed, research on the automaticity of evaluative judgments has implications in areas of particular relevance for everyday life. While it is true that more ecologically valid studies are still required in order to be able to compare the extent of this phenomenon in "real" situations, the studies to date allow us to establish some important lines of application. In this context, this section aims to review some of the most important findings in three areas that we believe can particularly benefit from this line of research.

Consumer psychology

One of the areas that has most benefited from the new findings in cognitive automaticity has been consumer psychology and branding (Olivera La Rosa & Rosselló, 2014b). Indeed, it is clear that in recent years there has been a growing interest in empirically investigating different aspects of consumer psychology. Interestingly, the effects of incidental stimuli have been reported both at the evaluative level and at the behavioral level.

For example, a widely documented phenomenon in cognitive psychology argues that repeated exposure to a given stimulus generates favorable attitudes toward it (Zajonc, 1980). This phenomenon, known as the effect of "mere exposure" has proven to be highly applicable to the study of the consumer. Consequently, evidence has been found to prove that just hearing the name of a brand once was sufficient to later increase its perception of solidity

(Holden & Vanhuele, 1999). The mere exposure effect has also been documented on the Internet: brief exposure to advertisements left traces in memory even when the participants reported having "forgotten" the images (Pêtre, 2005). In the same vein, there is evidence that the fluidity with which the information is processed has a positive effect on both the preference for new products (Brakus, Schmitt, & Zhang, 2014) and the choice of purchase (Herrmann, Zidansek, Sprott, & Spangenberg, 2013).

The viability of subliminal advertising has also been addressed empirically. For example, it has been documented that subliminal exposure to verbs related to an action ("trust") improved the evaluation of a persuasive message (Légal, Chappé, Coiffard, & Villard-Forest, 2012), that the implicit processing of an auditory stimulus improved the attitude toward an advertisement (Perfect & Edwards, 1998), and that the subliminal perception of the name of a brand of beverage increased the preference for the brand in question and the intention to consume it (Karremans, Stroebe, & Claus, 2006).

Complementing these findings, there is evidence that the implicit processing of stimuli associated with certain brands can generate behavioral responses related to their essence. Indeed, it has been documented that subliminal exposure to the logos of Apple, Disney and Red Bull increased the tendency of participants to behave more creatively, honestly and recklessly (respectively) (Brasel & Gips, 2011; Fitzsimons, Chartrand & Fitzsimons, 2008).

Given the importance of the recent findings on this subject, it is not surprising that implicit measures of brand are currently in the process of being progressively incorporated into the field of branding and consumer study. However, we should be cautious when considering the practical implications of the empirical research carried out to date. For example, the fact that the aforementioned experimental designs have been limited to identifying short-term effects leaves open the question concerning the duration of the effects, which is an essential issue for potential implementation.

Law

The fact that incidental affective responses have the ability to influence evaluative judgments has serious implications in the legal field, traditionally based on a rational paradigm. Since the empirical evidence mentioned seriously questions this assumption, some authors have expressed the need to pay greater attention to cognitive discoveries in legal practice (Barsky, Kapla, & Beal, 2011; Fernández, Marty, Nadal, Capó, & Cela-Conde, 2005).

However, there are still many outstanding questions to explore, especially regarding the practical significance of the results obtained in the laboratory. Bearing in mind the provisional nature of the data, the state of the question suggests that affective responses –both comprehensive and incidental– influence evaluations of legal responsibility (for a review, see Feigenson, 2016). For example, one study found that the psychological experience of power increases the severity of the punishment to transgressors. In particular, the results of Wiltermuth and Flynn (2013) suggest that the increased severity of punishments is due to

the sense of "moral superiority" in the perpetuators and not the perception of the transgressions as more immoral (see also Williams, 2014). It has also been documented that jurors who had been induced to experience the emotion of anger made harsher attributions than those who were in a relatively neutral emotional state (Lerner, Goldberg, &Tetlock, 1998). Some results even suggest that briefly seeing negatively shocking images reduces the severity of moral judgments (Olivera La Rosa & Rosselló, 2012) and that subliminally presented erotic pictures increase the acceptance of harm for a greater good (Olivera La Rosa et al., 2016). Future studies should address this problem from a more ecological approach, considering, for example, the time course of the influence of incidental affect in decision-making.

A topic of special interest in this area is that referring to the condition of psychopaths in the legal system. Psychopathy is characterized by symptoms such as empathic deficits, an inability to experience certain "moral" feelings, a more positive attitude toward violence and a tendency toward manipulative behavior and lies, among others (Hare, 2003). These peculiarities have highlighted the suitability of using implicit procedures to study this disorder (Suter, Pihet, De Ridder, Zimmermann, & Stephan, 2014). From this perspective, a recent study found that implicit negative attitudes towards violence were closely related to adaptive social behavior and antisocial facets of psychopathy (Zwets et al., 2015). Future studies should examine these issues through implicit procedures, in research conducted with other psychopathological disorders (Roefs et al., 2011).

Prosociability

Understanding how automaticity and errors in cognitive and affective attribution work can undoubtedly be useful for research in prosocial behavior. Indeed, several studies have found that prosocial responses can be influenced by experimental inductions. For example, Oveis, Horberg and Keltner (2010) found that while the experience of compassion favors the feeling of similarity with those we perceive as "weak", the experience of pride generates the same empathic effect toward those whom we identify as "strong". Furthermore, it appears that the emotional experience of "elevating" (which is described as a positive emotion generated by the perception of a virtuous act; Haidt, 2003) induced experimentally has the ability to increase the motivation to help others (Schnall, Roper, & Fessler, 2010).

It is worth mentioning here an empirically well-documented effect: the feeling of being observed increases the levels of prosocial behavior (Gervais & Norenzayan, 2012; Norenzayan & Shariff, 2008). In this context, a line of research that has attracted special interest in the field of cognitive psychology is the study of the relationship between religion and prosociality. While the results are sometimes contradictory, the state of the question favors –in general terms– that the activation of religious concepts induced experimentally produces ambivalent effects: while on the one hand it increases prosocial tendencies towards those perceived as group members, at the same time it emphasizes the perception of difference with members of other groups (Galen, 2012; McKay & Whitehouse, 2015; Thomson, 2015).

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From another perspective, it has been documented that mentally activating the notion of "group" in participants significantly reduced their commitment to assist in a behavioral task (Scaffidi Abbate, Boca, Spadaro, & Romano, 2014). Within the scope of the work ethic, it seems that decisions in this context can be influenced by environmental factors that are inaccessible to conscious processing. A multicultural study found that participants who were activated in the concept of "rudeness" perceived a series of work scenarios as more ethical than participants who were activated in the concept of "courtesy" (Nolder & Riley, 2013).

The research conducted within the framework of embodiment has also provided interesting results in this area. On the one hand, studies on the influence of incidental affective stimuli in prosociality have produced striking results, finding for example that the smell of certain cleaning products encourages reciprocity and charity (Liljenquist, Zhong, & Galinsky, 2010). On the other hand, there are various studies that have documented the fact that experiencing physical contact increases prosocial behavior (Kleinke, 1977; Vaidis & Halimi-Falkowicz, 2008). In this line, it has been shown that the physical feeling of "warmth" is related to the perception of interpersonal "warmth". For example, briefly holding a hot drink increases the perceived "warmth" of a particular personality (as opposed to holding a cold drink) (William & Bargh, 2008a) and recalling an experience of social rejection or inclusion affects the perception of the environmental temperature (lowering or increasing it, respectively) (Zhong & Leonardelli, 2008). It even seems that the feeling of social rejection can reduce body temperature (IJzerman et al., 2012).

Finally, it is noteworthy that although the reviewed studies have provided suggestive results for research in prosociality, there is still a long way to go in discussing its viability in a non-experimental context. As in the case of the areas identified above, it is the task of future research to solve this pending issue.

CONCLUSIONS

Our implicit mind seems to work with its own laws. The empirical evidence collected in recent decades favors, conclusively, the characterization of our evaluation processes as predominantly automated processes susceptible to the influence of incidental variables. In this context, the special interaction existing between bodily states and psychological states defines various aspects of social cognition, constituting a factor that facilitates the presence of errors in affective attribution. Indeed, the ubiquity of this phenomenon in the evaluation processes is a challenge for research in cognitive and social psychology, as different areas of everyday social life can benefit from a better understanding of the underlying mechanisms.

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