Short Title: Spontaneous Evaluations

Spontaneous Evaluations: Similarities and Differences between the Affect Heuristic and Implicit Attitudes

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Abstract

The affect heuristic and implicit attitudes are two separate concepts that have arisen within different literatures but that have a number of similarities. This paper compares these two constructs with the aim of clarifying exactly what they are and how these relate to one another. By comparing and contrasting the affect heuristic and implicit attitudes we conclude that the 'affect pool' of images tagged with feelings referred to within the affect heuristic literature may be equivalent to the construct of implicit attitudes. Further to this, the affect heuristic itself could be considered as a specific sub-type of spontaneous process that is driven by implicit attitudes. We propose that each of the implicit attitude and affect heuristic constructs could be further developed through the examination and comparison of existing literatures surrounding the other. Implications for future research are outlined.

Introduction

The affect heuristic and implicit attitudes are two very interesting concepts that have developed within the areas of risk and of attitudes respectively. Implicit attitudes refer to the spontaneous associations that can be measured between attitude objects and their evaluations. The affect heuristic refers to the process of using underlying feelings that are associated with a particular hazard in forming perceptions of risks and benefits. These two concepts have emerged within different literatures and have been of undeniable benefit within each. However, there are a variety of similarities between these concepts both conceptually, and procedurally in the way that they are measured, which indicates that these concepts may refer to the same or similar phenomenon. This review is not intended to diminish either of these concepts but is rather aimed at stimulating research which may provide advances in either or both of these by conducting an analysis and comparison of the two in order to direct future research.

The Affect Heuristic

The affect heuristic is described as being an emotion-based shortcut used within decision-making (Finucane, Alhakami, Slovic, & Johnson, 2000). It is proposed that images (which may be perceptual or symbolic representations) within the mind are tagged to varying degrees with positive and negative affective feelings and that these are used to guide judgements and decision-making, particularly when decision-making is carried out spontaneously or with limited cognitive resources. It is argued that this method of decision-making is a more efficient way of making decisions when time or mental resources are limited (Slovic, Finucane, Peters, & MacGregor, 2004). Our evolutionary ancestors are thought to have relied on this type

of decision-making, using intuition and instinct to make decisions, before analytical decision-making tools were developed.

The important role of emotion in decision-making has been recognised by a variety of researchers. For example, Zajonc (1980) put forward the idea that affective reactions to stimuli are our very first reactions and guide subsequent perceptions and information processing. Emotion has also been included as a crucial factor in decision-making within Damasio's (1994) somatic marker hypothesis, Epstein's (1994) dual process theory of rational and experiential thinking and Loewenstein, Weber, Hsee and Welch's (2001) risk as feelings hypothesis, amongst other theories.

The theoretical development of the affect heuristic stems primarily from evidence obtained within risk research that indicated that feelings of dread were the main determinant of public perceptions and acceptance of risk for a variety of different hazards (Fischoff, Slovic, Lichtenstein, Read, & Combs, 1978). It was noted that, although in reality risk and benefit tend to be positively correlated, people's individual perceptions of risk and benefit tend to be negatively correlated (Fischoff et al., 1978). In addition to this, the inverse relationship noted between perceived risks and benefits was related to the strength of positive or negative affect associated with the particular hazard in question (Alhakami & Slovic, 1994). In other words, it seems that perceptions of risks and benefits are driven by feelings. If feelings are positive this leads an individual to judge risks as low and benefits as high and if feelings are negative this leads an individual to judge risks as high and benefits as low. In further support of this view, Finucane et al., (2000) demonstrated that perceptions of benefits could be influenced by manipulating risks and vice versa. So, for example, increasing perceived benefits resulted in a decrease in perceived risks. The affect heuristic is also found to be relied on to a greater extent when decision time is limited. Evidence

indicates that the inverse relationship noted between risks and benefits is more pronounced when judgements are made under a time-pressured condition (Finucane et al., 2000).

The affect heuristic is described as using an 'affect pool' which contains images (perceptual and symbolic representations) of objects and events which are linked to varying degrees with positive and negative affective markers (Slovic, Peters, Finucane and MacGregor, 2005). The description of an 'affect pool' has much in common with the experiential (or spontaneous) system of processes which is described within dual process attitude models (e.g. Epstein, 1994; Chaiken, 1980; Fazio, 1990; Devine, 1989) and contrasted with a rational system of processes. The experiential system is theorised to depict reality using images, metaphors and narratives which are differentially associated with affect and which processes information rapidly. In contrast, rational systems are thought to be a logical system which encodes reality using symbols, words, and numbers and which processes information more slowly (Epstein, 1994).

Implicit Attitudes

Implicit attitudes have been defined as 'introspectively unidentified (or inaccurately identified) traces of past experience that mediate favourable or unfavourable feeling, thought, or action toward social objects' (Greenwald & Banaji, 1995, p. 8). In other words, these are evaluative associations that have been developed through previous experience that are held (possibly without conscious knowledge) towards attitude objects. See Fazio and Olson (2003) or Spence (2005) for a more extensive review of implicit attitudes. In contrast to explicit attitudes, which are generally measured using direct questions, implicit attitudes are examined indirectly using measures such as reaction time tasks or by examining non-verbal

behaviour. Within measures of implicit attitudes, people are asked to respond (or observed whilst responding) spontaneously to relevant stimuli in order that the individual's basic associations with those stimuli can be examined.

The construct of implicit attitudes is, as yet, controversial and the way in which implicit attitudes relate to explicit attitudes remains a point for discussion. One view, the dual attitude model (Wilson, Lindsey, & Schooler, 2000) postulates that implicit and explicit attitudes are separate constructs that are developed in different ways. This model suggests that an individual can hold more than one attitude towards the same attitude object and that which attitude is activated will depend on the situation and the cognitive resources available to the individual.

The alternative view, held by the majority of researchers, asserts that implicit and explicit attitudes are measures of different underlying systems of processes through which attitudes are produced. In this way, implicit and explicit attitudes can actually be thought of as two different measures of attitudes rather than as entirely different constructs[1]. This is the view held by dual process theorists (e.g. Epstein, 1994; Chaiken, 1980; Fazio, 1990; Devine, 1989) who, as previously discussed, outline a system of experiential processes and a system of rational processes. Implicit attitudes are thought to measure processes within the experiential system and explicit attitudes to measure processes within the rational system.

More recently, the conceptual relationship between the postulated experiential system and the rational system of processes (and the corresponding measures of implicit and explicit attitudes) has been elaborated on. Strack and Deutsch (2004) proposed the Reflective-Impulsive model which developed the ideas of the experiential (here described as impulsive) and the rational (here described as reflective) system of processes and integrated these concepts with motivational

components in order to produce a more complete explanation of how these processes may influence behaviour. Within this model, associations activated within the experiential system of processes are postulated to be subordinate to, and form the basis for, the rational system of processes which may build on, discard, or otherwise qualify these associations as appropriate (see also Gawronski and Bodenhausen, 2006 and Green, Applebaum and Tong, 2006). In this way, implicit attitudes are conceptualised as a measure of initial associations that are activated by an attitude object, these associations are simple and exist independently of truth values. For example, an individual may hold negative associations with African Americans due to a knowledge of negative stereotypes even though that individual may not agree with the association and may regard this as false. Measurements of explicit attitude are a measure of these same associations once these have been modified by processes within the rational system, e.g. self presentation effects or contextual information (see Hofmann, Gschwendner, Nosek and Schmitt, 2005, for a review of moderators of the implicit – explicit attitude relationship). Hence, an individual may suppress the negative associations that he/she may have with African American individuals because it is understood that it is wrong to stereotype people by race in this way.

Comparison of the affect heuristic and implicit attitudes

The affect heuristic and implicit attitudes appear to have a number of similarities with regards to the way that they are defined and with regards to the way that they are measured. Both have (1) been linked with affect, (2) are described as being spontaneous in nature, and (3) have been linked to the experiential system of processes within dual process theories. Each of these observations will now be discussed.

1. Affect

Affect is referred to within theoretical descriptions of implicit attitudes and of the affect heuristic. Within the affect heuristic, affect is defined as 'the specific quality of goodness or badness (a) experienced as a feeling state (with or without consciousness) and (b) demarcating a positive or negative quality of a stimulus' (Slovic et al., 2005, p.35). This is quite a general description of affect which seems to encompass the definition of an attitude. There have been a variety of definitions of the term attitude. For example Thurstone (1931, p 261) states that, "Attitude is the affect for or against a psychological object", Krech, Cruthfield and Ballachy (1962, p. 139) report that "Attitudes [are] enduring systems of positive or negative evaluations, emotional feelings, and pro or con action tendencies with respect to social objects" and Greenwald and Banaji (1995, p. 7) suggest that, "Attitudes are favourable or unfavourable dispositions toward social objects, such as people, places, and policies". Most of these definitions seem to relate to the definition provided for affect as used within the affect heuristic literature, either encompassing (b) as stated above or both (a) and (b). It is possible therefore that affect, as referred to within the affect heuristic, fundamentally refers to an attitude – a simple evaluation of the "goodness" or "badness" of something.

Implicit attitudes have also been repeatedly associated with affect (Epstein 1994; Marsh, Johnson, & Scott-Sheldon, 2001). Gawronski and Bodenhausen (2006) recently suggested that implicit attitudes may correspond to the affective component of attitude outlined within the tripartite model of attitudes that distinguishes affective, cognitive and behavioural components of attitude (Zanna and Rempel, 1988) and that explicit attitudes may be a joint product of affective and cognitive components. The distinction between implicit attitudes as affective and of explicit attitudes as cognitive

(or as a joint product of cognition and affect) is intuitively appealing. However, there are as yet few empirical examinations of the relationship between implicit attitudes and affect.

An important study often cited as evidence for a relationship between implicit attitudes and affect examined implicit racial attitudes and neural activation. This study demonstrated that implicit attitudes towards Black people covaried with amygdala activation in White people exposed to photos of Black people (Phelps, O'Connor, Cunningham, Funayam, Gatenby, Gore et al., 2000). As the amygdala is associated with emotional learning, it was thought that implicit attitudes may be linked to emotional experiences in particular. However, the amygdala has also been linked with evaluative decision-making situations that may not elicit conscious emotions which indicates that the role of the amygdala may be more generally evaluative rather than being linked to specific emotional experiences (Bechera, Damasio, Tranel and Damasio, 1997). Another possible reason for this finding may be that the specific attitude under observation (racial attitudes) may have an emotional basis; it does not necessarily mean that all implicit attitudes have an emotional basis.

Further evidence has indicated that the affective component of an attitude was accessed faster than the cognitive component of the attitude (Verplanken, Hofstee and Janssen, 1998). This may help to explain links between affect and implicit attitudes because implicit attitudes are typically assessed at very fast speeds. However, Giner Sorolla (2004) investigated this finding in more depth and demonstrated that in stimuli used within their study, the affective component of an attitude was only accessed faster than cognitive components when the attitude object had an affective basis, e.g. desserts.

Some more recent investigations have indicated that implicit attitudes towards the self can predict affective state (Conner and Barrett, 2005; Dijksterhuis, 2004). Interestingly, findings indicate that only negative affective states are influenced by implicit self attitudes and positive affective states remain unaffected. Results imply (and are interpreted as) that implicit self attitudes may have a role in the defence of threats to self appraisal. However, the specificity and interpretation of these findings indicate that any relationship between implicit attitudes and affect may be limited to attitudes towards the self rather than implicit attitudes more generally.

Overall, there is a variety of evidence that indicates a link between implicit attitudes and affect. Empirical evidence remains sparse however, and results are complicated, underlining the likely complexities that exist within the relationship. Again though, this is highly dependent on the definition of affect. If affect has a broad definition that includes any association with evaluations, then an attitude by its very nature is strongly associated with affect (but no more so with implicit attitudes than with explicit attitudes). However, if affect is defined as an emotional experience then current evidence is not conclusive. It seems that although both the affect heuristic and implicit attitudes have repeatedly been linked with affect, empirical support for specific associations between these constructs and well defined measures of affect are lacking, and this is an interesting direction for future research.

2. Spontaneity

The affect heuristic and implicit attitudes have also both been associated with spontaneity. Both are commonly measured under time-pressured conditions in order to examine spontaneous, rather than deliberate, associations. It is noted however that (generally) no time limit is utilised and some deliberation may be possible during longer time lengths (D. Green, personal communication, November 30, 2006), this is

an issue for both the affect heuristic and implicit attitudes. Within the affect heuristic literature, evidence suggests that the influence of the affect heuristic (on judgements of risk and benefit) becomes stronger under time pressured conditions (Finucane, Alhakami, Slovic and Johnson, 2000). Further evidence indicates more generally that the influence of affective responses to stimuli on behaviour increases under time pressured conditions (Shiv, and Fedorikhin, 2002). In a similar way, implicit attitudes are found to be better predictors of spontaneous rather than deliberate behaviour (Asendorpf, Banse and Mucke, 2002; Steffens and Konig, 2006; Spence and Townsend, in press). It is possible that further refinement of the measurement of these constructs may enable purer measurements of spontaneous processes.

3. Experiential System of Processes

Both the affect heuristic and implicit attitudes have been linked theoretically with an experiential system of processes, described within dual process theories of attitudes. One possible distinction that could be drawn between implicit attitudes and the affect heuristic relates to what each construct actually refers to conceptually within the experiential system of processes (we thank an anonymous reviewer for raising this point). Tasks that examine implicit attitudes measure associations between a target stimulus and positive and negative evaluations, whereas tasks that examine the affect heuristic measure perceptions of risk and benefit relating to a target stimulus that are presumed to be driven by underlying affective evaluations. For this reason, implicit attitudes are most commonly defined as a measure of the content of the experiential system of processes whereas the term affect heuristic is commonly used to refer to the active use of the content of the experiential system of processes during decision making. This is an important and interesting distinction that deserves further exploration both empirically and conceptually. It is possible that

implicit attitudes are simply a different description of the 'affect pool' described within the affect heuristic literature that consists of images linked with positive or negative markers. The affect heuristic may therefore constitute the act of using implicit attitudes (within the field of risk) and could be conceptualised as a sub-type of spontaneous process that is driven by implicit attitudes. Indeed, to the extent that speeded risk and benefit judgments can themselves be regarded as a spontaneous behaviour, implicit attitudes may be found to be a good predictor of these judgements. In fact, to the extent that the bounds of the affect heuristic are unknown, it is possible that the affect heuristic may predict evaluations or behaviours other than risk and benefit judgements in a similar way to implicit attitudes, particularly under time restricted conditions. Therefore, it is possible that the affect heuristic and implicit attitudes may be referring to different aspects of a similar phenomenon.

Implications for Future Research

The comparison of the affect heuristic and implicit attitude constructs would benefit from an empirical assessment of the affect heuristic using measures of implicit attitude. It would be interesting to see if an implicit attitude held towards a stimulus predicts perceived risks and perceived benefits of that stimulus. In this way, the proposition that implicit attitudes are equivalent to the 'affect pool' described within the affect heuristic literature could be examined. Further to this, it would be useful to examine whether an implicit attitude task adapted in order to measure associations between an object and risk-benefit evaluations (e.g. Siegrist, Keller and Cousin, 2006) would provide the same results as a task used in order to measure the affect heuristic.

As noted earlier, whilst both constructs under scrutiny here have been linked to affect, the association with affect is likely to depend on the specific definition of affect itself. Further research should, therefore, examine the relationship between

affect and the affect heuristic and implicit attitudes whilst being careful to define exactly what is meant by the term 'affect'. One way of doing this might be to attempt to actually develop implicit attitudes in an experiment using different techniques. The most common method of inducing implicit attitudes is through evaluative conditioning (see De Houwer, Thomas, and Baeyens, 2001, for a review). In relation to this, it would be useful to compare implicit attitudes that are developed using associations with other valent stimuli (as the unconditioned stimulus) with implicit attitudes that are developed using associations with feelings or emotional states. Similarly, it would be interesting to examine how measurements of the affect heuristic differ depending on whether associations held towards target attitude objects are induced using different techniques. It is noted that the affect heuristic literature is relatively sparse with regard to the way in which this construct is developed and it may be particularly beneficial to draw on literature regarding implicit attitudes in this respect.

Further known characteristics of these constructs and evidence that has been gathered in association with one construct may help to inform the other. For example, it is found that implicit attitudes are to a certain extent uncontrollable or, at least, difficult to control (Kim, 2003; Steffens, 2004). It would be interesting to examine the degree of control associated with the affect heuristic. This could be done in several ways, the spontaneity of the task could be varied by utilising a response window or increasing cognitive load. Alternatively, the participant could be provided with different aims in completing the task, for example they could be asked to present themselves in a certain way, e.g. as a risk averse or risk seeking individual, when completing the task.

A wealth of different avenues for exploring implicit attitudes and the affect heuristic in association with each other exist and this paper was written in order to open the debate and stimulate research in this area. The conceptual and empirical comparison and clarification of implicit attitudes, and the affect heuristic will benefit both constructs and will help to refine theory and understanding within the domains of risk and attitude research.

Conclusions

The affect heuristic and implicit attitudes are defined very similarly. Both constructs are associated with affect, both are measured in a spontaneous manner, and both are linked with the evaluative system of processes described within dual process theories of attitudes. It is noted, however, that these constructs refer to somewhat different phenomena; implicit attitudes refer to the actual evaluative associations that people hold towards attitude objects whilst the affect heuristic refers to the application of evaluative associations in risky decision-making. We conclude that implicit attitudes may equate to the 'affect pool' of images associated with positive and negative markers referred to within the affect heuristic literature. In turn, the affect heuristic could be conceptualised as a specific type of implicit process that is driven by implicit attitudes, though these assertions require empirical verification. These claims are not intended to diminish the importance of either construct which both have demonstrable utility. It is intended that the comparison of these constructs should instead stimulate further research in both domains and potentially across these two domains which may help to clarify and develop the conceptual understanding of the affect heuristic and implicit attitudes.

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Acknowledgements

Many thanks to Professor Paul Slovic, David Green, and several anonymous reviewers for their comments. This research was funded by the Leverhulme Trust, the Economic and Social Research Council, and the Natural Environment Research Council.

Footnote

[1] Within this manuscript, the terms ‘implicit attitude’ and ‘explicit attitude’ will be used, however this should not be taken as an adherence to a particular theoretical stance.