

Exploratory workshop on Evaluative Conditioning
Changing attitudes through evaluative conditioning: challenges and promises
Timișoara 15-16th of September 2012

Silvia Rusu¹

The workshop **Changing attitudes through evaluative conditioning: challenges and promises** took place between 15-16th of September 2012 in Timisoara. The workshop was organized by the Psychology Department of West University of Timisoara and the SOCPERS Lab, under the coordination of assoc. prof. Florin Alin Sava, Ph.D..

Evaluative conditioning was defined as a change in the valence of a stimulus (Conditioned Stimulus, CS) following the pairing of that stimulus with another valenced stimulus, (Unconditioned Stimulus, US) (De Houwer, 2007) and it is now considered to be one of the key mechanisms involved in the formation and change of attitudes. Imagine a company is ready to release a new brand of beer, and it is interested in creating a favorable attitude towards it. In order to do this, the company will use advertising or other common techniques to pair the beer brand with positive affective stimuli (known as evaluative conditioning procedures). Evaluative conditioning is considered to have a strong potential to affect attitudes in different areas such as alcohol consumption (Houben, Schoenmakers, & Wiers, 2010; Houben, Havermans, & Wiers, 2010) brand attitudes (Sweldens, Van Osselaer, & Janiszewski, 2010), emotion research (Mallan & Lipp, 2007), clinical psychology (Olatunji, Lohr, Sawchuk, & Westendorf, 2007). Recent research also suggests that evaluative conditioning procedures might be able to affect not only attitudes, but also behavior (Houben, Nederkoorn, Wiers & Jansen, 2011). Considering all of the above, we believe it is important for scientists to focus on a better understanding of the EC effect and on the underlying causal mechanisms, in order to design better EC procedures, with better results.

The exploratory workshop had three main objectives:

1. To understand what are the causal mechanisms (mediators) that make EC efficient, and, therefore, helping designing procedures that lead to strong as opposed to weak changes in preferences.
2. To understand what are the possible moderators that affect the EC effect in the direction of increasing the respective effect.
3. To find in which cases EC has played a crucial role in changing attitudes rather than forming attitudes, since the former case has more ecological validity implications.

Six of the best researchers working in the field of implicit measures and evaluative conditioning were invited to present their findings, the existent perspectives and knowledge related to evaluative conditioning.

The workshop began with the presentation of prof. Marco Perugini from the University of Milano Bicocca *On self-referential framework as an EC procedure. Main findings and links to the propositional and associative accounts in explaining EC*. After a short introduction on dual process models, implicit attitudes and measures as well as on evaluative conditioning, prof. Perugini's presentation focused on a specific EC procedure, namely the Self-referencing paradigm. Because most people have positive self-esteem and self-views at explicit and implicit level, but also because the Self has a special status in information processing, we can exploit this positivity of the self by using it as an Unconditional Stimulus. In other words, the self can be used to change evaluations and attitudes towards targets that are paired with the self. The research conducted by professor Perugini suggests that Self-referencing is a robust EC

¹ Ph.D. student, West University from Timișoara

paradigm for attitude change detected using implicit, but also explicit attitude instruments. According to this research the self seems to be a powerful US, as targets paired with the self become more positive.

Prof. Keith Payne from the University of North Carolina continued with a presentation on *Implicit and explicit social cognition - are associations and propositions enough?* The theoretical framework of the presentation consisted of the Associative - Propositional Model, according to which “the prototypical case for implicit attitude change resulting from changes in associative structure is evaluative conditioning” (Gawronski & Bodenhausen, 2006; p. 697). There is currently a debate in the literature whether the evaluative conditioning is an associative or a propositional process, but either way we need to learn more about how it affects implicit evaluations. If EC is associative, we need to understand how it relates to implicit and explicit evaluations, but if EC is propositional, then we need to understand how propositions lead to implicit evaluation.

Assoc. prof. Anne Gast from University of Ghent presented aspects regarding *The relevance of propositional knowledge and memory on evaluative conditioning effects*. In the framework of the Associative Propositional Model (Gawronski & Bodenhausen, 2006) propositions are mental links that are represented as statements about the world, which are considered to be truth. The propositional account of the EC effect suggests that EC emerges when knowledge about the common appearance of the stimuli is accessible. From this point of view, the memory of the pairings seems to be important, and the results of the research developed by the Lab in Ghent University shows that EC effect depends on memory of the pairing during valence measurement, but, not on memory of pairings immediately after learning. There seems to be a considerable amount of evidence suggesting that under specific conditions, EC effects are dependent on the propositional processing of information and on the context.

Prof. Steven Sweldens from INSEAD Business School presented aspects related to *Implicit and explicit learning in evaluative conditioning - the role of the conditioning procedure*. The presentation approached two research questions: The content - what is learned in EC? and The process - is it associative or propositional? Regarding the issue of content,

the connection between the CS and the UR (unconditional response) can be established either through associative learning (the CS is associated with US), or through direct affect transfer on the UR, depending on how the stimuli are paired during the EC procedure. Regarding the process, if the learning is implicit, it should occur without awareness of the CS-US contingency, but the literature shows confusing results so far. One potential cause of the mixed results provided by the literature is related to the way CA (contingency awareness) is measured because as long as people rely on their feelings towards the CS in answering the memory question, successful EC for ‘unaware CS’ will not emerge. Using a multinomial model, which disentangles the memory and the attitude effects in CA measurement, prof. Sweldens shows there is significant attitude acquisition without contingency awareness, consistent with the implicit misattribution account of the EC (at least when the CS and US are presented simultaneously).

The presentation of assoc. prof. Florin Alin Sava from West University of Timisoara focused on *Interventions that alter implicit cognitions*, showing a comparison between two different techniques (EC and attentional training), using a meta-analytical approach. It was shown that Attentional Training procedures had a stronger effect than EC, but only on attentional bias as measured by the Dot Probe Task or E-Stroop. This result should be regarded with caution since the effect on attentional bias can be attributed to method-specific factors (because of the similarity between the training and assessment procedure). When we consider the intervention most effective in changing implicit associations as measured by the Implicit Association Test, the evaluative conditioning shows better effects than the Attentional Training. No studies assessed the effect of EC on attentional bias, so this relation could not be evaluated. Also, the effects assessed in this meta-analysis show significant heterogeneity, suggesting that a number of moderator variables should be further analyzed for a better understanding of the effectiveness of interventions designed to change implicit cognitions.

Prof. Rainer Banse from University of Bonn presented *A critical view on EC procedures - insights from an implicit measure perspective*. A recent meta-analysis (Hofmann, DeHouwer, Perugini, Baeyens, & Crombez, 2010) showed

that evaluative conditioning is a real effect able to change implicit and explicit attitudes. Nonetheless, there still are several issues that remain unclear concerning the efficiency of EC. The criticisms brought to EC are related to the poor reliability of the implicit instruments used to measure the change, and on the fact that EC seems to work only under certain conditions. For instance, research ran by prof. Banse on the context effects in evaluative conditioning yielded unclear results, with no significant main effect of the evaluative conditioning procedure. Some suggestions made by prof. Banse included using a large enough sample size for obtaining stable results and replicating results within the study, across different studies and different labs and measures.

During the workshop, several topics related to EC were addressed, such as the efficiency of different EC procedures, the possible causal mechanisms responsible for the EC effect, potential moderators and critical aspects of the EC. Although until now the causal mechanisms of EC are not clear, some evidence suggest that different procedures tap into different processes, so in order to fully understand how and when EC yields strong vs. weak effects we must first understand the processes responsible for different types of EC procedures. Future research should also focus on identifying the moderators which can increase the EC effect, but also on developing better measures for CA and the effect at implicit and explicit level. Last, but not least, we should remember that replication is necessary for considering EC a reliable procedure for attitude formation and change.

References

- De Houwer, J. (2007). A conceptual and theoretical analysis of evaluative conditioning. *The Spanish Journal of Psychology*, 10, 230–241.
- Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional processes in evaluation: an integrative review of implicit and explicit attitude change. *Psychological bulletin*, 132(5), 692.
- Hofmann, W., De Houwer, J., Perugini, M., Baeyens, F., & Crombez, G. (2010). Evaluative conditioning in humans: a meta-analysis. *Psychological bulletin*, 136(3), 390.
- Houben, K., Havermans, R. C., & Wiers, R. W. (2010). Learning to dislike alcohol: conditioning negative implicit attitudes toward alcohol and its effect on drinking behavior. *Psychopharmacology*, 211(1), 79-86.
- Houben, K., Nederkoorn, C., Wiers, R. W., & Jansen, A. (2011). Resisting temptation: Decreasing alcohol-related affect and drinking behavior by training response inhibition. *Drug and alcohol dependence*, 116(1), 132-136.
- Mallan, K. M., & Lipp, O. V. (2007). Does emotion modulate the blink reflex in human conditioning? Startle potentiation during pleasant and unpleasant cues in the picture–picture paradigm. *Psychophysiology*, 44(5), 737-748.
- Olatunji, B. O., Lohr, J. M., Sawchuk, C. N., & Tolin, D. F. (2007). Multimodal assessment of disgust in contamination-related obsessive-compulsive disorder. *Behaviour research and therapy*, 45(2), 263-276.
- Sweldens, S., Van Osselaer, S. M., & Janiszewski, C. (2010). Evaluative conditioning procedures and the resilience of conditioned brand attitudes. *Journal of Consumer Research*, 37(3), 473-489.