

## LISTA DE POSTERS

ated by previous experience with the possible options. This project explores the possibility that precognition and other extrasensory information may reach consciousness or influence behaviour in a manner similar to the operations of Damasio's somatic markers.

This project consists of two experiments of similar design. The first experiment is a close replication of an experiment devised by Bechara and Damasio that uses SCRs as an indicator of somatic markers in action while the subject makes decisions in a simulated gambling task. In the original version of the task, subjects learn that some of the card decks involved are riskier than others. An interesting finding with normal subjects (as opposed to brain-injured subjects) is that SCRs indicate that subjects know emotionally that some choices are riskier before they know it consciously. In the first experiment of this project we will be replicating the Bechara studies very closely while adding an investigation of individual differences. In the second experiment we shall change the experiment so that it is not possible for subjects to determine which decks are riskier by learning which position they occupy. If subjects can still demonstrate SCR responses to risky choices then it can only be through precognitive intuition.

All subjects will complete both the Myers-Briggs Type Indicator (MBTI) and the NEO-FFI personality inventories and the results will be used to examine individual differences in both the "classic" Bechara experiment and the precognitive version. Data collection is presently underway and is expected to be completed by March 2004.

**Título/Title:** "Face processing in 3-day-olds: an electrophysiological approach"

**Instituição/Institution:** Department of Psychology, The University of Sheffield - UK

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**Abstract:**

De-Haan *et al.* and Halit *et al.* recorded event-related potentials in adults, 6-month and 12-month old infants during a face processing task where the subjects passively viewed upright (HU) and inverted (HI) pictures of

human faces. Their analysis showed the classic N170 in adults and a putative “infant N170” in 6-month and 12-month old infants. Our own grand-average re-analysis of the data suggested that the infants N170 seemed to be a broader version of the adults N170. Further analysis was performed applying the wavelet-based multi-resolution analysis (MRA) to the grand averages, in order to test for this apparent bandwidth difference. The MRA technique decomposes each time-series into its various frequency band components. The N170-related brain activity was extracted mainly in the alpha band (8-13 Hz) for adults, in the delta band (0-4 Hz) for 6-month olds and in both the theta (4-8 Hz) and alpha bands for the 12-month olds. These findings suggest that 6-month olds may be slower than adults and 12-month olds at processing pictures of human faces. This might reflect these infants' more limited exposure to faces and/or a physiological characteristic of infants' immature brains that makes them generally slower at processing information as a whole. As reported in <sup>[1]</sup>, both amplitude and latency differences between HI and HU conditions was observed in adults, whereas none was observed in 6-month old infants. Moreover, our analysis results for 12-month olds suggest the possibility of two developmental precursors of the adults N170 which belong to two separate frequency bands. The latency difference observed between both conditions was present in the theta component only, whereas the amplitude difference was detected in the alpha component only, with peak activity in the left temporal area for the HI condition as observed in adults. Overall our findings demonstrated evidence of developmental bandwidth changes of the N170 activity across the three age groups, and that sensitivity to orientation is present from at least 12-month of age.

<sup>[1]</sup> De-Haan *et al.*, J. Cog. Neur. (2002)

<sup>[2]</sup> Halit *et al.* Neuroimage (2003).