that greater optimization predicts increased accuracy of our decisions. We further conclude that human social abilities rely on versatile decision-making strategies to handle the complexity of our social world.

E29

TRANSCRANIAL RANDOM NOISE STIMULATION AND COGNITIVE TRAINING IMPROVES FACE PERCEPTION

Rachel Bennetts[1], Sarah Bate[1], Tegan Penton[2], Carmen Kohl[2], Michael Banissy[2]; [1]Bournemouth University, [2]Goldsmiths, University of London — Several studies have found that cognitive training can improve face recognition. However, the effects tend to be relatively small and short-lived. Recent research has found that non-invasive brain stimulation techniques such as transcranial random noise stimulation (tRNS) can enhance and extend the effects of cognitive training in other domains, but this has not been examined for face recognition. In this study, we examined whether tRNS modulated the effects of a face recognition training program in people with typical face recognition abilities. Participants completed a face discrimination training task for one hour per day over five days. Training was preceded by twenty minutes of active high frequency tRNS or sham stimulation to lateral occipitotemporal cortices. Participants completed a battery of face processing tasks assessing face memory (the Cambridge Face Memory Test, CFMT), face perception (the Cambridge Face Perception Test, CFPT), and patterns of eye-movements to faces (free-viewing of faces and social scenes); these took place before training, after training, and at a one-week follow-up session. Participants who received active stimulation showed significant improvement on the CFPT following training, whereas those who received sham stimulation did not show any training gains. There was no improvement for inverted faces, and neither the active or sham stimulation group showed an improvement on the CFMT, or any change in eye-movement patterns. These results suggest that tRNS can enhance the effectiveness of face recognition training programmes, but further work is needed to establish whether perceptual gains can be generalised to memory.

E30

AN FMRI STUDY ON THE INFLUENCE OF BEING IMITATED ON EMPATHY FOR PAIN

Lize De Coster[1], Charlotte Desmet[1], Jelle Demanet[1], Liesbet Goubert[1], Marcel Brass[1]; [1]Ghent University — Being imitated has been shown to have several positive social consequences. In a recent study, it was shown that being imitated does not only affect complex social behaviour, but that it influences a basic process such as empathy for pain as well. Empathy for pain refers to the idea that pain-related brain activation is found when observing someone else in pain. In a paradigm designed to investigate the influence of being imitated on empathy for pain, participants' finger movements are being imitated by a hand on screen or not. Subsequently, the hand on screen receives painful stimulation. In the current fMRI study, brain activation was measured to investigate which brain areas related to pain observation are modulated by being imitated. Furthemore, it was explored whether neural evidence was found for the idea that self-other overlap underlies this effect. Peak activity was found in the right dorsal anterior insula (AI), supporting the idea that being imitated enhances activation in pain-related brain areas. Interestingly, this region has been related to translation of affective states into action tendencies. Furthermore, activation was found in the right temporo-parietal junction (TPJ), a region associated with self-other distinction. This activity was positively correlated with activation in the AI, indicating that stronger affective responding was associated with a greater need for distinction between self and other. These results provided the first direct evidence for the idea that being imitated modulates empathy for pain, and support a shared representational account.

E31

LINKING PERSON PERCEPTION AND PERSON KNOWLEDGE IN THE HUMAN BRAIN

Inez Greven[1], Paul Downing[1], Richard Ramsey[1]; [1]Bangor University — To date, neuroscience research has examined separately how we detect human agents in the environment (person perception) and how we reason about their thoughts, traits or intentions (person knowledge). Occipitotemporal cortices and fusiform gyri have been associated with person perception, whereas medial prefrontal cortex, temporoparietal junction and temporal poles have been associated with person knowledge. However, it remains unknown how multiple features of a person (e.g., thin and kind) are linked to form a holistic understanding of identity. In this functional imaging experiment, we investigated the hypothesis that when encountering another person, specialised circuits for person perception would be functionally coupled with those involved in person knowledge. In a factorial design, we paired bodies or names with traits or neutral statements and independent localiser scans identified networks associated with body perception and mental state reasoning. When observing a body paired with a trait-implying statement, person perception and person knowledge networks were preferentially engaged. In addition, functional connectivity analyses demonstrated that a region of right fusiform gyrus was functionally coupled with bilateral TPJ and right temporal pole. These results demonstrate that brain circuits for representing another person's physical appearance, such as body shape and posture, are linked to brain circuits that are engaged when reasoning about another person's trait-based character, such as whether they are friendly, helpful or generous. These data support the view that a "who" system for social cognition spans perceptual and inferential mechanisms and that these mechanisms communicate to each other when forming a representation of another's identity.

E32

SOUND FREQUENCY AFFECTS SPEECH EMOTION PERCEPTION: RESULTS FROM CONGENITAL AMUSIA

Sydney L. Lolli[1], Ari Lewenstein[1], Sean Winnik[1], Julian Basurto[1], Psyche Loui[1]; [1]Wesleyan University — Congenital amusia is a neurodevelopmental disorder of pitch perception and production. While amusia has clear effects on musical perception, its impact is on speech perception is less clear. Our study investigates the effects of amusia on perceiving emotional prosody in speech. It has been suggested that amusics may rely more on alternative cues within speech to infer emotional content, such as stress and emphasis, to compensate for poor pitch perception. We constructed low-pass-filtered conditions of the Macquarie Battery for Evaluation of Prosody to disrupt intelligibility of emotional speech while preserving melodic contour. Thirty-seven subjects performed an emotional identification task of 84 MBEP speech samples under both low-pass and natural speech conditions, as well as a psychophysical pitch discrimination task. Results showed a significant correlation between pitch discrimination threshold and accuracy in emotional identification for low-pass-filtered speech ($r=-.389$, $p<0.05$). In contrast, emotional identification was not significantly correlated with pitch perception ability under natural speech conditions ($r=-.039$, $p>0.05$). Given the different results in low-pass-filtered and natural speech conditions, we inferred that amusics may be compensating for poorer pitch perception by using speech cues that are filtered out in the low-pass-filtered manipulation. To assess this potential compensation, a second experiment is being conducted using high-pass-filtered speech samples intended to isolate non-pitch cues. Results show no significant correlation between pitch discrimination and emotional identification accuracy for high-pass-filtered speech ($r=.346$, $p>0.05$). Results from these experiments suggest an influence of low frequency information in identifying emotional content of speech.

E33

HIGH FREQUENCY TRANSCRANIAL RANDOM NOISE STIMULATION TO VENTROLATERAL PREFRONTAL CORTICES ENHANCES EMOTION DISCRIMINATION ABILITIES

Tegan Penton[1], Lauren Evans[1], Michael Banissy[1,2]; [1]Goldsmiths, University of London, New Cross, London, SE14 6NW, [2]University College London, 17 Queen Square, London, WCIN 3AR, UK — Reductions in emotion perception abilities contribute to deficits in communication and social competence, reduced quality of life, and social isolation. Given this, techniques that enhance this ability could be valuable. Transcranial Random Noise Stimulation (tRNS) is a form of non-invasive electrical brain stimulation that increases cortical excitability and has been used to enhance performance on various cognitive tasks. As yet, the effect of tRNS on emotion perception has not been studied. Here, we conducted two experiments to examine the effects of tRNS to bilateral Ventrolateral Prefrontal Cortices (VLPFC) on emotion recognition and perception abilities, with the prediction that tRNS would improve these processes. Experiment 1 investigated the effects of tRNS to VLPFC relative to V5/MT on emotion and identity discrimination using a same/different judgement task at baseline and following stimulation. Participants showed a greater improvement in performance following tRNS to VLPFC relative to V5/MT. To examine this further, we conducted a second study to investigate the