

## Impact of adolescent methamphetamine use on social cognition

LAUREN HANEGRAAF<sup>1</sup>, MARÍA CARMEN BLANCO GANDÍA<sup>2</sup>, RAÚL LÓPEZ-ARNAU<sup>3</sup>, JOSÉ MIÑARRO<sup>4</sup>, ELENA ESCUBEDO<sup>3</sup>, DAVID PUBILL<sup>3</sup>, MARTA RODRÍGUEZ-ARIAS<sup>4</sup>, ANTONIO VERDEJO-GARCIA<sup>1</sup>

<sup>1</sup>Turner Institute for Brain and Mental Health, Monash University, 18 Innovation Walk, Clayton VIC 3800, Australia

<sup>2</sup>Department of Psychology and Sociology, University of Zaragoza, C/ Ciudad Escolar s/n, 44003 Teruel, Spain

<sup>3</sup>Department of Pharmacology, Toxicology and Therapeutic Chemistry, Pharmacology Section and Institute of Biomedicine (IBUB), Faculty of Pharmacy and Food Sciences, University of Barcelona, Av. Joan XXIII, 27-31, 08028, Barcelona, Spain.

<sup>4</sup>Department of Psychobiology, Facultad de Psicología, Universitat de Valencia, Avda. Blasco Ibáñez, 21, 46010 Valencia, Spain

Presenter's email: [lauren.hanegraaf@monash.edu](mailto:lauren.hanegraaf@monash.edu)

**Introduction and Aims:** *Methamphetamine use disorder (MUD) is associated with social cognition deficits that may contribute to drug-related negative social outcomes (1–4). However, there are considerable inter-individual differences in social cognition within people with MUD (5,6), with age of onset of methamphetamine use being a potential contributing factor. Here, we aimed to examine the relationship between age of onset and social cognition in individuals with MUD.*

**Design and Methods:** *We utilised a cross-sectional study approach in 95 participants with MUD varying in age of onset (38 adolescent onset, 57 adult onset) and 49 drug-naïve controls. Social cognition was measured using the Ekman's Faces Test, and group differences were explored using one-way ANOVAs and pairwise least significant difference tests.*

**Results:** *MUD participants with Adolescent Onset were less accurate at identifying facial emotions than those with Adult Onset and drug-naïve controls. Participants with Adolescent Onset also exhibited significant deficits in identifying anger, which was driven by a bias for misclassifying angry expressions as sadness. Participants with Adult Onset did not differ from drug-naïve controls in their ability to identify facial emotions.*

**Discussions and Conclusions:** *Our findings support the assertion that age of onset of methamphetamine use may underlie differences in social cognition in individuals with MUD. Individuals with an adolescent age of onset appear to exhibit more pronounced social cognition deficits and specific impairments in identifying anger as sadness, suggesting they perceive angry faces as less hostile. Additional research is required to better understand the relationship between age of onset and social cognition deficits.*

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**Disclosure of Interest Statement:**

*AVG is funded by an Australian Medical Research Future Fund, Next Generation of Clinical Researchers CDF2 Fellowship (MRF1141214). MRA is funded by Instituto de Salud Carlos III, Red de Trastornos Adictivos (RD16/0017/0007) and European Union, FEDER Funds “A way to build Europe”; EE is funded by Ministerio de Economía y Competitividad (grant number SAF2016-75347-R), Plan Nacional sobre Drogas (#2016I004). EE, RLA and DP belong to 2017SGR979 from Generalitat de Catalunya.*