

## **The Go/No Go Contingent Negative Variation (CNV): Relationships with alcohol abuse and criminal recidivism**

### **ABSTRACT:**

#### **Background**

The Go/NoGo CNV is a biomarker of emotional impulsiveness, hypothetically resulting from a history of early-onset alcohol abuse (EOAA). Go/NoGo CNV has previously been shown to reliably predict violent reoffending in patients discharged from high-secure care into the community.

#### **Aim of the study**

This study aimed to test the following predictions arising from a hypothesis regarding the role of early-onset alcohol abuse in the genesis of adult antisocial personality (Howard, 2006):

1. EOAA will be shown to mediate the transition from childhood conduct disorder (CD) to adult antisocial personality;
2. Emotional impulsiveness will be demonstrated as a core feature of severe personality disorder (PD);
3. Severe PD will be shown to be associated with a history of severe violence;
4. Reoffending in PD patients released from secure care into the community will be shown to be associated with a toxic triad: severe alcohol abuse, severe CD, and comorbid borderline PD.
5. Through the use of biofeedback it will be demonstrated that it is possible to train the brain of emotionally impulsive offenders so that their Go/NoGo CNV is normalized in a non-impulsive direction.

#### **Method**

These predictions were tested in a series of studies which examined offenders with PD (see publications below).

#### **Results and Conclusions:**

The above predictions were confirmed. These results suggest that a developmental pathway important in the genesis of adult violence (and associated severe PD) runs from childhood CD (and its precursors) to EOAA and hence, via impairment in the brain substrate of cognitive control, to severe PD and violence in adulthood.

#### **Keywords**

Alcohol abuse, Personality disorder, Violence, Impulsiveness

### **Published Work:**

Howard, R., & Khalifa, N. (2016). Is emotional impulsiveness (Urgency) a core feature of severe personality disorder? *Personality and Individual Differences*, 92, 29-32.

Howard, R., Khalifa, N., & Duggan, C. (2014). Antisocial personality disorder comorbid with borderline pathology and psychopathy is associated with severe violence in a forensic sample. *Criminal Behaviour and Mental Health*, doi: 10.1080/14789949.2014.943797

Howard, R., McCarthy, L., Huband, N., & Duggan, C. (2013). Re-offending in forensic patients released from secure care: The role of antisocial/borderline co-morbidity, substance dependence, and severe childhood conduct disorder. *Criminal Behaviour and Mental Health*. doi: 10.1002/cbm.1852

Howard, R., & McMurrin, M. (2013). Alcohol and violence in developmental perspective. In: M. McMurrin (Ed.), *Alcohol-Related Violence: Prevention and Treatment* (pp. 81-102). Chichester, UK: John Wiley & Sons, Ltd. doi: 10.1002/9781118411094.ch5

Howard, R., Schellhorn, K., & Lumsden, J. (2013). Complex case: A biofeedback intervention to control impulsiveness in a severely personality disordered forensic patient. *Personality and Mental Health*, 7, 168-173.

Khalifa, N., Duggan, C., Howard, R., & Lumsden, J. (2012). The relationship between childhood conduct disorder and adult antisocial behavior is partially mediated by early-onset alcohol abuse. *Personality Disorders: Theory, Research, and Treatment*, 3(4), 423-432. doi: 10.1037/a0027017

Howard, R. C. (2006). How is personality disorder linked to dangerousness? A putative role for early-onset alcohol abuse. *Medical Hypotheses*, 67(4), 702-708.