acetylcarnitine and free-carnitine levels assayed in plasma as potential markers of cognitive dysfunction in subjects with aMCI or early-AD.
**Methods:** We used available samples from two independent cohorts well characterized for clinical and neuropsychological characteristics together with ultraperformance liquid chromatography-tandem mass spectrometry and computational approaches. Cerebrospinal fluid (CSF) measures of b-amyloid accumulation and t-Tau levels were also available and used in computational modeling.
**Results:** Within the primary cohort, our data showed decreased levels of carnitine in relation to cognitive function as assessed by using the Mini Mental Status Exam (MMSE) in women but not men with CI as compared to age- and sex-matched HC. Furthermore, the magnitude of carnitine deficiency reflected the severity of cognitive dysfunction in a sex-specific manner (women: p = 0.015; men: p = 0.441). Our data also replicated the prior finding of decreased LAC levels in both women and men with AD, supporting the robustness of the study samples assayed in our new study. Using computational approaches, we found that the integration of these mitochondrial measures with canonical CSF biomarkers improves diagnostic accuracy. A second cohort provides a validation of the sex-specific relationship between free-carnitine deficiency and the severity of cognitive dysfunction.
**Conclusions:** Taken together with prior mechanistic studies in rodents, the current findings support future research on the development of individualized treatment models targeting sex-specific changes in mitochondrial metabolism.

**Disclosure of Interest:** None Declared

## EPV1064

## fNIRS and behavioral measures of inhibition are correlated with different aspects of impulsivity

A. D. S. Afonso Junior[1], W. Machado-Pinheiro[2], A. G. Seabra[1], M. A. Munoz[3] and L. R. R. Carreiro[1]*

[1]Universidade Presbiteriana Mackenzie, São Paulo; [2]Univeridade Federal Fluminense, Rio das Ostras, Brazil and [3]Universidad de Granada, Granada, Spain
*Corresponding author.
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**Introduction:** Impulsivity implies difficulties in control, leading to non-premeditated actions, and troubles resisting distraction and remaining focused on a goal. It is a transdiagnostic construct that is associated with several disorders, including Attentional Deficit and Hyperactivity Disorder (ADHD), Borderline Personality Disorder and Obsessive-Compulsive Disorder (OCD). It is possible to divide impulsivity between impulsive actions, associated with the ability to inhibit actions, and choice impulsivity, that involves decision-making. It is also common to differentiate between trait impulsivity, that involves more stable characteristics, and state impulsivity, in which the impulsive behavior is more transient.
**Objectives:** To investigate the association between action impulsivity as a trait (using self-report measures) and as state (using different level of analysis in a computerized task, i.e., behavioral and neuroimaging measures).
**Methods:** 52 university students (mean age = 21.4; standard deviation = 3.33) filled the BIS-11 self-report questionnaires and completed a Stroop-matching/stop-signal task while they had their behavioral and hemodynamic brain activity collected using Functional Near- Infrared Spectroscopy (fNIRS). The Stroop-matching/stop-signal task had three conditions varying the inhibitory demands: Congruent/Unrelated; Incongruent/Unrelated and Incongruent/Related. Spearman correlations were performed between scores of the BIS-11 subscales (Attentional, Motor and Non-planning impulsivity) and the reaction time (RT) and hemodynamic responses (β) of the Stroop-matching/stop-signal task. Alpha level = 0.05.
**Results:** RTs in all conditions of the task were positively correlated with Motor Impulsivity scores (Congruent/Unrelated, rho = .31, p = .025; Incongruent/Unrelated, rho = .27, p = .049; Incongruent/Related, rho = .38, p = .005). Brain activity in the left temporoparietal region was positively correlated with Attention Impulsivity scores (rho = .29, p = .033).
**Conclusions:** Motor and attentional aspects of trait impulsivity can be differently correlated with behavioral and neurophysiological measures of state impulsivity. In this study, motor impulsivity was correlated with more peripherical measures of inhibition (reaction times) while attentional impulsivity was correlated with activity in temporoparietal regions commonly associated with inhibition of distractive stimuli. Greater levels of motor and attentional impulsivity were associated with slower responses and greater brain activity, respectively.

**Disclosure of Interest:** None Declared

## EPV1066

## The effectiveness of an add-on postbiotic to antipsychotic drugs for prevention of metabolic disturbances in patients with first-episode psychosis and schizophrenia spectrum disorder. A double blind clinical trial

J. Chato Noriega[1]*, E. Giné Servén[2], A. Ballesteros[2], M. Araña[3], M. Barajas[3], D. Yavorov[4], I. Iturria[4], J. Ayo[4], J. García[5], G. Núñez[5], M. J. Cuesta[2], E. Rosado[1], A. M. Sánchez Torres[3], G. Gil[6], X. Ansorena[6] and I. J. Encio[3]

[1]Instituto de Investigación Sanitaria de Navarra (IdiSNA),; [2]Department of Psychiatry, Hospital Universitario de Navarra; [3]Universidad Pública de Navarra; [4]Genbioma Aplicaciones SL; [5]Intelligent System Vitale SL and [6]Instituto de Investigación Sanitaria de Navarra (IdiSNA), Pamplona, Spain
*Corresponding author.
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**Introduction:** Atypical antipsychotics (APs) are the drugs of choice for the treatment of the acute episodes and for relapse prevention in schizophrenia (SZ) and psychosis. Nevertheless, these drugs have side effects and particularly increase the risk to develop metabolic syndrome. Moreover, it has been reported that first-episode psychosis (FEP) patients have significant trends to insulin resistance, a higher body mass index and a higher rate of obesity, compared to the healthy subjects. Changes in gut microbiome have been linked to increased systemic inflammation, which could be associated with metabolic disturbances and the development of SZ. In this context, some previous studies have explored the efficacy of probiotic supplementation in SZ, showing benefits in gut regulation and in improving the metabolic effects of APs.

**Objectives:** The purpose of this study is to evaluate the effectiveness of an add-on postbiotic to Aps on metabolic disturbances and psychopathological variables in patients diagnosed with FEP or schizophrenia spectrum disorder (SSD). , as well as to determine whether the addition of postbiotics can improve biomarkers related to compensatory immunity and the endocannabinoid system.
**Methods:** A randomized, double-blind, placebo-controlled clinical trial, in which postbiotic or placebo will be administered for 12 weeks as add-on APs. The study comprises two branches: FEP branch, patients recently diagnosed with first psychotic episode; and SSD branch, patients with long-standing psychotic disorder. Five follow-up appointments will be conducted along the 12 weeks to carry on clinical assessments. Patients will be monitoring with a glucose sensor, and blood and microbiota will be analysed.
**Results:** This is a study protocol that is currently underway. No results are available at this time.
**Conclusions:** Over the past few decades, it has been abundantly evident how important the human microbiota is to both short-term and long-term human health. In this regard, postbiotics seem to have higher benefitial effects and lower risk than probiotics and they offer a promising approach to improve metabolic disturbances and amelioration of psychopathological symptoms in FEP and SSD patients.

**Disclosure of Interest:** None Declared

## EPV1067

## Emotion recognition and self-versus-other referential learning in mood disorders and schizophrenia

C.-D. Chiu

Department of Psychology, Chinese University of Hong Kong, North Territory, Hong Kong
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**Introduction:** Patients of depression and psychotic disorders are often troubled by unsatisfactory interpersonal relationships. While an inability to maintain a stable sense of self restricts one's understanding another's emotional state, whether disrupted self-versus-other referential processing is a transdiagnostic predictor of increased emotion misreading across diagnostic groups has not been explicated.
**Objectives:** We tested whether weakened differential learning between self and other may account for impoversihed emotion recognition accross mood and psychotic disorders.
**Methods:** Inpatients admitted for major depressive disorder (MDD), bipolar disorder (BD), and schizophrenia (SCZ; ns = 59, 32, and 43) and 40 healthy controls were recruited. Aside from ratings of depressive and schizophrenic symptoms by psychiatrists, participants were assessed on self- versus other- referential learning, emotion recognition, emotion sharing.
**Results:** Regression analysis indicates lower effectiveness of self-other tagging to be a predictor independent from symptom severity for increased emotion misrecognition across MDD, BD and SCZ ($F(8, 160) = 8.52$, $p < 0.001$). Clinical groups showed lower accuracy for other-referential recall and emotion recognition, but comparable emotion sharing and self-prioritization to healthy controls.

**Image:**

| | Emotion recognition | | |
|---|---|---|---|
| | β | *t* | *p* |
| **Age** | 0.114 | 1.470 | 0.144 |
| **Sex** | 0.250 | 3.530 | 0.001 |
| **Years of education** | 0.086 | 1.080 | 0.282 |
| **Intellectual quotient** | 0.231 | 2.480 | 0.014 |
| **Depression (T2)** | 0.053 | 0.690 | 0.490 |
| **Positive symptoms (T2)** | -0.025 | -0.190 | 0.847 |
| **Negative symptoms (T2)** | -0.122 | -0.970 | 0.335 |
| **Efficiency of SOT** | -0.066 | -0.970 | 0.334 |
| **Effectiveness of SOT** | 0.309 | 3.290 | 0.001 |

**Conclusions:** Heightened emotion misrecognition in MDD, CD, and SCZ patients can be traced back to the weakened ability in coordinating self- and other-representations according to task-demands. Future examinations on whether interventions on brain regions pertaining to self-versus-other learning might enhance emotion recognition in different patient groups would be clinically relevant.

**Disclosure of Interest:** None Declared

## EPV1068

## Molecular Mechanisms of Hypericin and Hyperforin in Modulating Mammalian Neurotransmitter Systems: A Review

D. J. Cox[1]*, R. Maldonado-Puebla[1] and B. Carr[1]

[1]Psychiatry, University of Florida, Gainesville, United States
*Corresponding author.
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**Introduction:** Hypericin and hyperforin, key secondary metabolites of *Hypericum spp.*, commonly known as St. John's Wort, are known for their ability to modulate neurotransmitter systems in the mammalian brain. These compounds, which evolved as plant defense chemicals, have significant implications for their interaction with mammalian neurobiology, particularly concerning serotonin, dopamine, and norepinephrine pathways.
**Objectives:** This review aims to elucidate the precise molecular mechanisms by which hypericin and hyperforin influence mammalian brain function. The focus is on understanding how these compounds interact with neurotransmitter transporters and receptors, and how these interactions may lead to both therapeutic and adverse neurobiological outcomes.