

However, adolescents with greater rTPJ response demonstrated a positive association between closeness and peak happiness a few hours later, whereas adolescents with lower rTPJ response did not,  $t(158)=2.46$ ,  $p=.015$ .

**Conclusions:** Overall, the findings suggest that although greater engagement in social cognition during rewarding social contexts tempers the short-term mood effects of emotional closeness, it helps sustain affective benefits from emotional closeness over time. Future research may demonstrate that the ability to sustain affective benefits from emotional closeness may help protect against depression.

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**Keywords:** Social reward, Positive affect, temporo-parietal junction, Neuroimaging, Social

## 820. Latent Factors of Psychopathology and Grey Matter Volume

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**Background:** Psychiatric disorders are often comorbid, and can be organized into higher order latent factors including internalizing and externalizing as well as a general bifactor to account for overlap across disorders. Studies have implicated the limbic-paralimbic (LP) network in internalizing disorders and the mesocortico-striatal (MCS) network in externalizing disorders [1, 2]. Whether these networks are specific to internalizing and externalizing disorders or broadly related to psychopathology through the general factor remains unclear.

**Methods:** 444 subjects (233 women,  $26.01 \pm 1.79$  y.o.) from the Tennessee Twin Study (TTS) completed a structured clinical interview and a T1 scan [3, 4]. Multi-atlas segmentation was used to produce grey matter volume (divided by total intracranial volume) [5, 6] from bilateral LP (hippocampus, amygdala, and anterior insula) and bilateral MCS (dorsal striatum (DS), and ventral striatum (VS)) and tested for correlations with internalizing and externalizing scores respectively. General factor scores were correlated with all regions.

**Results:** There were no significant relationships with internalizing scores ( $ps > .1$ ). Externalizing scores had a significant positive correlation with ( $ps < .01$ ) right DS ( $r(442) = .14$ ), left DS ( $r(442) = .14$ ), left VS ( $r(442) = .15$ ), and right VS ( $r(442) = .17$ ). General scores had a significant positive correlation with ( $ps < .01$ ) the left VS ( $r(442) = .13$ ) and right VS ( $r(442) = .16$ ).

**Conclusions:** Findings implicate the MCS in externalizing psychopathology and the VS in the general factor. While the DS may be more specifically related to externalizing psychopathology, the VS may be related more broadly to psychopathology.

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**Keywords:** externalizing, internalizing, general factor, Gray Matter Volume

## 821. 96 Hour Infusion of Ketamine for Treatment Resistant Depression: Clinical and Resting State Connectivity Findings

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**Background:** Ketamine has shown benefits as a novel antidepressant, but its actions are limited by brief duration of improvement. We propose that a higher-dose, prolonged (96hr) infusion of ketamine is required to reset the NMDA receptor and provide sustained benefits.

**Methods:** 22 adults with treatment-resistant depression underwent a 96hr infusion of ketamine. Clonidine, and alpha-2 agonist, was co-administered to block psychotomimetic side effects of ketamine. We measured clinical response using the Montgomery Asberg Depression Rating Scale (MADRS) and Clinical Global Impressions-Improvement Scale (CGI-I) for 8 weeks post-infusion. We also examined functional connectivity changes in brain networks using resting-state fMRI before and two weeks after the infusion.

**Results:** 21/22 participants completed the infusion. MADRS score changed from 28.5 (mean) pre-infusion to 9.2 1day post-infusion. Effects were largely sustained, with average MADRS score 14.4 at 8 weeks post-infusion. The infusion was generally well-tolerated with minimal cognitive and psychotomimetic side effects. Neuroimaging findings show persistent (2-week) network changes; findings will be presented at the SOBP meeting.

**Conclusions:** Conclusions Ketamine when given as a prolonged infusion provides both a rapid and in many cases sustained response in treatment-resistant depression. Changes in key resting-state networks correlate with this response.

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**Keywords:** Ketamine, treatment-resistant depression, Resting state fMRI

## 822. Abnormal Resting State Functional Connectivity in Bipolar Disorder with and without Psychosis

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**Background:** The ventral anterior cingulate cortex (vACC) has been identified as a brain region responsible for modulating emotional behavior and is implicated in the pathophysiology of mood disorders. Limited studies have assessed functional-connectivity between vACC and other brain regions or