in behavioral and neurobiological responses both generally and during acute nicotine abstinence. Paradoxically, the high-performing GPs who show greater activation and FC in task-relevant ROIs are more susceptible to lapses of attention during abstinence. Sustained FC between left IFG, right insula, and preSMA may be implicated in this dichotomy. Independent work has also identified preSMA FC between smokers subtyped on subjective measures, indicating a potential area of future research.

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Keywords: Nicotine Dependence, Abstinence, Attention, Subgrouping

Susceptibility and Resilience in a Mouse Model of Maternal Immune Activation

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Background: Epidemiological studies over the past decades have implicated maternal immune activation (MIA) in the etiology of psychiatric illnesses, including schizophrenia and related psychotic disorders. Not all offspring exposed to MIA, however, develop overt pathologies, suggesting that some are susceptible while others are resilient to MIA. To elucidate susceptibility and resilience in MIA, we used a mouse model that is based on prenatal exposure to the viral mimic poly(I:C).

Methods: Poly(I:C)-based MIA was induced in C57BL6/N mice on gestation day 12. Control dams received vehicle solution only. Offspring of poly(I:C)- or vehicle-exposed dams were subjected to a comprehensive behavioral testing battery when they reached adulthood. Next-generation mRNA sequencing and gene pathway analyses were conducted after behavioral testing to explore the molecular correlates of resilience and susceptibility to MIA.

Results: Behavioral characterization coupled with unbiased TwoStep cluster analysis of a large number offspring (N >150) revealed that offspring exposed to MIA could be stratified into susceptible and resilient subgroups. While the former was characterized by deficits in social interaction, sensorimotor gating, and working memory, the behavioral profile of the latter was indistinguishable from control offspring. Susceptible and resilient MIA offspring were also dissociable by the presence of distinct molecular profiles in cortical and subcortical brain areas.

Conclusions: Our data show that MIA can result in substantial phenotypic and transcriptomic variability even in the context of genetic homogeneity and under identical experimental conditions. If extended further, our model system may help to explain why only a subgroup of offspring exposed to MIA develops overt neurodevelopmental sequelae.

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Keywords: Maternal Immune Activation, Resilience, Susceptibility, Neurodevelopmental Disorders (NDDs)

Symptom Dimensions and Persistent Trauma Salience in World Trade Center Responders and Survivors With Chronic PTSD

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Background: Emerging research has found a relationship between salient trauma memories and personal identity and coping. Further research is needed to better understand the clinical implications of differential symptom presentations in individuals with chronic PTSD. Using a novel symptomics approach, we investigated associations of chronic PTSD symptom dimensions with self-reported centrality of trauma to participants' life story and perceived ability to cope with trauma in World Trade Center (WTC) disaster-exposed individuals with chronic PTSD.

Methods: Data were analyzed from 86 treatment-seeking WTC responders and survivors with chronic full or subthreshold WTC-related PTSD, assessed with the PTSD Checklist – Specific Version (PCL-S). Multivariable linear regression analyses were conducted to examine associations of PTSD symptom dimensions with trauma coping (Perceived Ability to Cope with Trauma Scale) and perceived centrality of trauma to participants' life narrative (Centrality of Event Scale), employing the 7-factor hybrid model, which additionally incorporates externalizing behaviors and anhedonia factors to earlier models.

Results: Anhedonia symptoms were independently associated with lower forward-focused perceived ability to cope (beta= -0.36), driven by difficulty experiencing positive feelings (e.g., inability to have loving feelings, feeling numb); negative affect with lower trauma-focused perceived ability to cope (beta= -0.25), driven by psychogenic amnesia; and anxious arousal symptoms with higher centrality of event (beta= 0.24).

Conclusions: Individual PTSD symptom dimensions were differentially associated with centrality of the event and with perceived ability to cope with the trauma. These findings may help improve personalized treatment for individuals with chronic PTSD stemming from mass trauma.

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Keywords: PTSD - Posttraumatic Stress Disorder, Symptom Dimensions, Symptomics, World Trade Center Responders

TSPAN5 Regulates Serotonin and Kynurenine Levels: Pharmacogenomic Mechanisms Related to Alcohol Use Disorder and Acamprosate Treatment Response

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