(MRI) offers unprecedented spatial resolution and is ideally suited for the in vivo examination of schizophrenia-associated abnormalities in intracortical myelin.

**Methods:** Twenty-two healthy individuals and 17 patients with schizophrenia were imaged at 7 Tesla MRI using a T1-weighted sequence optimized for intracortical myelin. T1 values were extracted at 20 cortical depth-levels covering the entire cortical ribbon from each of 148 cortical regions. In each cortical region, T1 values were used to infer myelin concentration and to compute a non-linearity index as a measure of the spatial organization of myelin across the cortical ribbon. These metrics were used to ascertain the effect of diagnosis, illness duration and medication using mixed-effects linear models.

**Results:** We identified case-control differences in intracortical myelin concentration (P<0.007) that were region-dependent; patients showed a pattern of comparative decrease in auditory and visual cortices and increase in frontoparietal cortices in patients (P<0.01). The latter effect was most pronounced at 65% cortical depth-level (P=0.006). Intracortical myelin concentration was inversely related to illness duration while a positive association was found for antipsychotic dose. Further, patients had consistently reduced non-linearity indices (P=0.01), particularly in a large bilateral cluster of frontal regions, but also in sensory and somatosensory cortices, which was not associated with illness duration.

**Conclusions:** This study identified schizophrenia-associated changes in the concentration and organization of intracortical myelin. Both medication and illness duration had an effect on intracortical myelin measures underscoring the need for larger, longitudinal studies to better characterize the role of intracortical myelin in the pathophysiology and treatment of schizophrenia.

**31. EMPIRICAL SUPPORT FOR INTERDISCIPLINARY INTERVENTIONS IN SCHIZOPHRENA-SPECTRUM DISORDERS**

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Since the release of the RAISE-ETP findings in the US, the US government has appropriated funds to develop first episode psychosis programs in every state in the US. As a result, there has been a rapid increase in these programs called coordinated specialty care programs. Yet coordinated care is not unique to this model and in many ways the RAISE-ETP findings inspired a wave of comprehensive treatment approaches. This increase in resources and coordination highlights a need to address symptoms in schizophrenia-spectrum illnesses that are less responsive to treatment. In particular, negative symptoms, disorganization, stress reactivity, and suicidality common to serious mental illness. At the same time there is increasing focus on the role of social environments, self-compassion, resilience, and mindfulness as treatment targets. Each presentation will review recent evidence from emerging interventions, many of which target treatment-resistant psychosocial symptoms in psychopathology generally and in schizophrenia-spectrum illnesses in particular. These emerging intervention presentations will emphasize empiricism in the context of interdisciplinary collaborations beyond psychology and psychiatry. We will conclude with a discussion on suggestions to improve and dissemination these evidence-based, yet emerging approaches to symptom management in schizophrenia spectrum illness.

**31.1 COMBINING EXERCISE PHYSIOLOGY, RECREATIONAL THERAPY, VIRTUAL REALITY GAMING TECHNOLOGY, AND PSYCHOSOCIAL REHABILITATION TO PROMOTE PHYSICAL EXERCISE IN SERIOUS MENTAL ILLNESS**

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**Background:** Physical exercise (PE) is a safe, non-stigmatizing, and side-effect free intervention that has the potential to mitigate neurocognitive dysfunction in psychosis, as well as reduce anxiety and paranoia. Developing and promoting PE programs for people with SMI in the community where participants cannot be paid to participate requires an interdisciplinary approach to activate motivation for exercise. We report the initial development and pilot results of a PE community program developed to enhance motivation and engagement in adults with schizophrenia, merging expertise from the fields of exercise physiology, recreational therapy, virtual reality (VR) gaming technology, and neuropsychiatric rehabilitation.

**Methods:** Adult outpatients diagnosed with schizophrenia (N=29) were enrolled in 18 hours (40 min session, 3x/week for 3 months) of exergaming. Exergaming uses interactive exercise equipment connected to a computer and monitor so the patient is engaged in a virtual game while exercising. For example, while pedaling on an exergaming stationary bike, the can have the experience of racing or biking through the countryside, either using a virtual reality headset or simply looking at the monitor. The PE regimen was tailored for each participant based on input from a (1) exercise physiologist who set the overall exercise intensity and (2) a mental health provider who set the overall exercise intensity. The PE regimen was tailored for each participant based on input from a (1) exercise physiologist who set the overall exercise intensity and (2) a mental health provider who set the overall exercise intensity.