development of PTSD symptoms following such traumas. However, there is a need to quickly identify individuals at the highest risk for developing PTSD. One of the hallmarks of PTSD is increased psychophysiological arousal driven by the autonomic nervous system. Skin conductance response (SCR) to a trauma reminder using a novel mobile app offers a noninvasive, quantitative, biological measure that is associated with current PTSD status and symptom severity.

Methods: This study examined the SCR using the eSense app on an iPad in n=431 patients recruited from 30 emergency departments in the U.S. as part of the multi-site AURORA study. Follow-Up mental health symptoms were collected via phone survey with the PCL-5 and PROMIS Depression inventory.

Results: The magnitude of the change in SC in response to trauma questionnaire collected in the ED predicted PTSD symptoms (PCL5, r=0.14, p=0.003) and depression symptoms (PROMIS, r=0.15, p=0.002) 2 months later.

Conclusions: This is the first study of this magnitude to use a physiological biomarker on a mobile device as a predictor of future symptoms. The results replicate an earlier study with a smaller sample size (Hinrichs et al 2019) and support the use of SCR to identify high-risk individuals in the Emergency Room.

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Keywords: PTSD, Parasympathetic Arousal, Depression, Anxiety, Prospective Prediction

Predictors of Posttraumatic Stress Six Months After Sexual Assault: Results of a Large-Scale, Multi-Site, Prospective Study

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Background: Identifying predictors of posttraumatic stress (PTS) may help inform the development of preventive interventions for women who present for emergency care in the immediate aftermath of sexual assault (SA). However, to date no large-scale, multi-site, prospective studies of SA survivors presenting for emergency care have been performed.

Methods: Women ≥18 years of age who presented for emergency care within 72 hours of SA were enrolled. Medical records were obtained, and assessments performed at the time of emergency care and at one week. The presence of substantial PTS symptoms (PCL-5 >= 33) was assessed at 6 months.

Results: A subset (n = 541) of study participants were evaluated in the present analysis. PTS at 6 months was common (268/541 (50%)). Predictors of PTS included childhood trauma burden (t=-2.75, p<.006), lifetime trauma burden (t=-2.69, p<.007), pre-assault anxiety (t=-3.47, p<.0006), pre-assault somatic symptoms (t=-3.316, p<.0010), and pain severity in the immediate aftermath of SA (t=-2.94, p<.003). Pre-assault depressive symptoms, pre-assault pain, not completing high school, vaginal penetration during SA, multiple assailants, and somatic symptoms in the early aftermath of SA together most efficiently predicted PTS at six months (Logistic LASSO regression, 10-fold cross-validation, lambda = 1SE). Follow-up will be completed in January 2020, analyses with full cohort (n=706) and proposed clinical prediction tool will be presented at the conference.

Conclusions: Characteristics identifiable in the early aftermath of SA predict PTS at six months.

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Keywords: Sexual Assault, Posttraumatic Stress, Prediction, Clinical Prediction Tool

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SYMPOSIUM
Early Life Adversity, Neurodevelopment, and Psychopathology: New Insights and Methodologies
Chair: Ryan Herringa

Dynamic Fluctuations in Brain Function Following Stressful Life Events in Adolescence: A High-Frequency Longitudinal Neuroimaging Study

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Background: Stressful life events (SLEs) are strongly associated with anxiety and depression during adolescence. Yet, the mechanisms linking SLEs with youth psychopathology remain poorly understood and there is a dearth of longitudinal studies examining how SLEs alter neurodevelopmental processes within-individuals over time.

Methods: A sample of 15-17-year-old females completed 12-monthly assessments (N=30, monthly assessments=355). SLEs were measured with a gold-standard interview. Neural responses to appetitive and aversive cues were assessed with an fMRI task involving fearful, happy, and neutral faces. Multi-level modeling was used to estimate between-person and within-person associations of SLEs with neural responses to aversive (fearful > neutral) and appetitive (happy > neutral) cues.

Results: Between-person associations of SLEs with neural function emerged in the salience network (putamen, thalamus) for aversive stimuli, such that youths with higher levels of SLEs over the year had higher neural responses in these regions than youths with lower levels of SLEs. Within-person associations indicated that youths exhibited higher recruitment of nodes of the default mode network (posterior cingulate,