

adjustment for covariates (including sex, maternal education, family social class, parental conflict, bullying and maternal depression). **Results** After adjusting for potential confounders, we found no evidence for an association between screen time and anxiety (OR = 1.02; 95% CI 0.95–1.09). There was weak evidence that greater screen time was associated with a small increased risk of depression (OR = 1.05, 95% CI 0.98–1.13).

**Conclusions** Our results suggest that young people who spend more time on screen-based activities may have a small increased risk of developing depression but not anxiety. Reducing youth screen time may lower the prevalence of depression. The study was limited by screen time being self-reported, a small sample size due to attrition and non-response, and the possibility of residual confounding. Reverse causation cannot be ruled out.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EV0390

### Cross-cultural adaptation, reliability, and validity of the revised Korean version of Ruminative Response Scale

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**Objective** Rumination is a negative coping strategy defined as repetitive and passive focusing on negative feelings such as depression. The Ruminative Response Scale (RRS) is a widely used instrument to measure rumination, but there is continuing argument about the construct validity of the RRS, because of probable overlap between the measurement of depression and that of rumination. The RRS-Revised, which removed 12 items of the RRS, is suggested as a more valid instrument for measuring rumination. Therefore, we translated RRS-R into Korean and explored the reliability, validity and factor structure in patients with major depressive disorders.

**Methods** Seventy-nine patients with major depressive disorder took the Korean version of RRS, RRS-R, State Trait Anxiety Inventory, Beck Depression Inventory and Penn State Worry Questionnaire. We performed exploratory factor analysis of RRS-R, and tested construct validity, internal reliability and test-retest reliability.

**Results** The internal and test-retest reliability of RRS-R was high. Factor analysis revealed that RRS-R is composed of two factors. “Brooding” factor explained 56.6% and “Reflection” factor explained 12.5%. RRS-R, especially “Brooding” factor, was highly correlated with other clinical symptoms such as depression, anxiety and worry.

**Conclusions** In this study, we find out the RRS-R is more reliable and valid than the original RRS in Korean patients with depression because the RRS-R is free from the debate about the overlap of item with BDI. We also revealed that “Brooding” is highly correlated with depressive symptoms. RRS-R may be a useful instrument to explore the implication of “Brooding” in depression.

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#### EV0391

### The role of disturbed circadian clocks in the development of depression-like behavior and metabolic comorbidity in mice

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Major depressive disorder (MDD) is often associated with disturbed circadian rhythms. However, a definitive causal role for functioning circadian clocks in mood regulation has not been established. We stereotactically injected viral vectors encoding short hairpin RNA to knock down expression of the essential clock gene *Bmal1* into the brain's master circadian pacemaker, the suprachiasmatic nucleus (SCN). In these SCN-specific *Bmal1*-knockdown (SCN-*Bmal1*-KD) mice, circadian rhythms were greatly attenuated in the SCN. In the learned helplessness paradigm, the SCN-*Bmal1*-KD mice were slower to escape, even before exposure to inescapable stress. They also spent more time immobile in the tail suspension test and less time in the lighted section of a light/dark box. The SCN-*Bmal1*-KD mice also showed an abnormal circadian pattern of corticosterone, and an attenuated increase of corticosterone in response to stress. Furthermore, they displayed greater weight gain, which is frequently observed in MDD patients. Since the circadian system controls important brain systems that regulate affective, cognitive, and metabolic functions, and neuropsychiatric and metabolic diseases are often correlated with disturbances of circadian rhythms, we hypothesize that dysregulation of circadian clocks plays a central role in metabolic comorbidity in psychiatric disorders. In fact, circadian rhythm disturbances have been linked to individual psychiatric and metabolic disorders, but circadian aspects of such disorders have not been considered previously in an integrated manner. Treating and preventing disturbances of circadian clocks in patients suffering psychiatric and metabolic symptoms may be a central element for therapies targeting both disorders concurrently.

**Disclosure of interest** The authors have not supplied their declaration of competing interest.

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#### EV0392

### Cerebral correlates of emotional interference processing in the elderly with subthreshold depression: A functional fMRI study

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**Introduction** Compared to healthy controls, adults with major depressive disorder (MDD) showed stronger activation in dorsolateral prefrontal cortex (DLPFC) and anterior cingulate cortex (ACC) in resolving emotional conflict. Whether subthreshold depression (StD) at an advanced age is also accompanied by similar changes in brain activation in coping with emotional conflict remained unknown.

**Objectives** By using face-word Stroop task, the current study explored the neural correlates of emotional interference processing in old adults with StD.