greater accuracy. Difficulty was assessed by means of trial congruency. Response-time was measured in msec. These factors were compared between-groups, controlling for the amount of time participants were awake before testing.

Results: MANOVA analysis determined no differences concerning task accuracy between individuals with insomnia (46.20 ± 2.46) and normal-sleepers (46.55 ± 1.43), $F(1,37) = 0.35$, $P = 0.55$. Likewise there were no between-group differences on accuracy and response time as a function of congruency (both P's>0.05). However, individuals with insomnia were significantly slower in making overall judgments (678.25 ± 137.71) relative to normal-sleepers (585.61 ± 134.14) $F(1,37) = 4.98$, $P = 0.03$.

Conclusions: The present study indicated that although individuals with insomnia exhibit no impairment in accurately recalling faces relative to normal sleepers, they show a deficit in the speed of making judgments.

Disclosure: Nothing to disclose.

P089

Insomnia specific rumination is related to both trait and state dependent arousal in insomnia disorder

I. Mazzei[1], T. Agnello[1], U. Moretto[1], M. Mauri[1], C. Carney[2] and L. Palagini[1]

[1]Department of Clinical and Experimental Medicine, Psychiatric Unit, University of Pisa, School of Medicine Pisa, University of Pisa, Pisa, Italy, [2]Department of Psychology, Ryerson University, University of Toronto, Toronto, ON, Canada

Introduction: Insomnia specific rumination has been related to insomnia severity and to unhelpful sleep-related beliefs, in insomnia. Because research into the cause of chronic insomnia has identified hyperarousal as a key factor, and it is likely to have both trait and state components, the aim was to investigate how insomnia rumination is associated with trait and state arousal in insomnia.

Methods: Sixty-nine subjects with Insomnia disorder (ID) (DSM-5) and 38 healthy controls (H) were evaluated using: Insomnia Severity Index (ISI), Daytime Insomnia Symptom Response Scale (DISRS), Arousal Predisposition Scale (APS), and Pre-sleep Arousal Scale (PSAS). Univariate and multivariate regression analyses were then performed.

Results: Subjects with insomnia (F 43, mean age 49 ± 14) presented higher scores than healthy controls (F 24, mean age 50 ± 11) in all the scales (DISRS: 52.4 ± 2.3 vs 23.3 ± 2.3 $P < 0.05$; APS: 37.2 ± 1.1 vs 12 ± 1.5 $P < 0.05$; PSAS cognitive: 22.8 ± 1.2 vs 10 ± 0.5 $P < 0.05$, PSAS Somatic 14.8 ± 0.9 vs 8.3 ± 0.7 $P < 0.05$). Insomnia related rumination was significantly correlated with both trait (APS coeff. = 0.0.8, $P < 0.0001$) and pre-sleep state arousal (PSAS cognitive coeff. = 0.5, $P = 0.02$, PSAS somatic coeff. = 1.0, $P < 0.0001$) and was best determined by trait arousal ($B = 0.6$, $P = 0.005$).

Conclusions: In insomnia, specific rumination is related to both trait predisposition to arousal and to state dependent arousal. Particularly, arousability may play a role in modulating insomnia specific ruminative response style and vice-versa. Insomnia specific rumination may contribute to insomnia development and maintenance by modulating trait and state arousal. Insomnia psychological treatments should also focus on insomnia specific rumination.

Disclosure: Nothing to disclose.

P090

Emotion deregulation depends on sleep related metacognition in insomnia disorder

T. Agnello, I. Mazzei, G. Cipollone, D. Caruso, M. Mauri and L. Palagini

Department of Clinical and Experimental Medicine, Psychiatric Unit, University of Pisa, School of Medicine Pisa, University of Pisa, Pisa, Italy

Introduction: Insomnia-related emotional bias has been shown in subjects with insomnia. It has been hypothesized that emotion deregulation may contribute to insomnia development and maintenance. The aim was to study the hypothetical association between emotion deregulation and sleep-related unhelpful cognition and metacognition.

Methods: Forty-four subjects with Insomnia disorder (ID) (DSM-5) and 35 healthy controls (H) were evaluated using: Insomnia Severity Index (ISI), Difficulties in Emotion Regulation Scale (DERS), Daytime Insomnia Symptom Response Scale (DISRS), Dysfunctional Beliefs about Sleep scale (DBAS) and Metacognitions Questionnaire - Insomnia (*MCQ-I*), while controlling for anxiety and depressive symptoms. Univariate and multivariate regression analyses were then performed.

Results: Subjects with Insomnia (F 24, mean age 45 ± 13) presented higher scores than Healthy controls (F 17, mean age 46 ± 11 years) in all the scales (ISI:17.1 ± 0.6 vs 4.0 ± 1.5; $P < 0.01$, DISRS: 51.7 ± 20 vs 20.2 ± 17 $P < 0.05$, DBAS: 85.1 ± 34.2 vs 48 ± 15 $P < 0.05$, MCQ-I:134.1 ± 43 vs 64.3 ± 8 $P < 0.01$). Difficulties in emotion regulation were significantly correlated with insomnia specific rumination (DISRS coeff. = 0.6, $P = 0.03$), with unhelpful sleep-related beliefs (DBAS: coeff. = 0.3, $P = 0.02$) and with insomnia related metacognition (MCQ-I coeff. = 0.5, $P < 0.0001$). In the multivariate regression analysis, difficulties in emotion regulation were best determined by insomnia related metacognition ($B = 0.5$, $P = 0.001$).

Conclusions: In subjects with insomnia, difficulties in emotion regulation were related to insomnia specific rumination, to unhelpful sleep-related beliefs and to insomnia-related metacognitive processes. Pariculary, insomnia-related metacognition may contribute to modulating emotion deregulation in insomnia. A broad range of cognitive and metacognitive processes should be considered when dealing with subjects with insomnia.

Disclosure: Nothing to disclose.

P091

The influence of written therapeutic feedback in Internet delivered cognitive behavioural therapy for insomnia in adolescents

E. de Bruin and A. M. Meijer

Child Development and Education, University of Amsterdam, Amsterdam, The Netherlands

Objectives: Guided Internet cognitive behavioural therapy for insomnia (CBTI) offers an effective treatment for adolescents, but little is known about the active ingredients of therapeutic feedback on outcomes. The aim was to identify which factors can be distinguished in written therapeutic feedback in Internet CBTI, and examine whether these factors contribute to sleep outcomes after insomnia treatment in adolescents.

Methods: Internet CBTI was applied for 57 adolescents (age M = 15.43 yr, SD = 1.74, 82.5% girls). Symptoms of insomnia and chronic sleep reduction, and sleep efficiency from 7-days sleep logs,