

**Results:** A 50-year-old woman with major depressive disorder developed a condition marked by exuberant extrapyramidal symptoms 3 weeks after OP. Significant stiffness, tremor, dysphagia and facial hypomimia were some of the symptoms observed. Therapy was started with amantadine 100mg daily, with complete resolution of the symptoms after 5 days. Follow-up revealed reversal of extrapyramidal symptoms, in the absence of any neuroimaging changes or any other neuropsychiatric manifestations.

**Conclusions:** The possible overlap between catatonia and EPS is remarkable. The two conditions, regardless of their differentiation, may benefit from an identical approach using dopaminergic drugs. The use of amantadine, even in low doses, may be an option in the rapid reversal of extrapyramidal symptoms resulting from OP.

**Disclosure:** No significant relationships.

**Keywords:** organophosphate poisoning; extrapyramidal symptoms; extrapyramidal syndrome; Catatonia

## EPV0542

### Effects of the moderate stress exposure on the short-term memory capacity: An experimental study in fire cadets

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**Introduction:** Future firefighters are selected and trained to perform well under pressure and stress.

**Objectives:** The research is focused on the experimental study of fire cadets' memory capacity under stress.

**Methods:** The study follows Solomon Four Group Design with two variables: stress stimuli (exposure/non-exposure), fire cadets (n=50)/civilian students (n=40). Two series of The Digit Span Test measurements (DST) were performed. Heart rate, EMG, systolic wave amplitude, pulse transit time were measured during the experiment to determine the respondents' stress levels.

**Results:** Memory capacity in fire cadets under stress (n=30) significantly increased (Wilcoxon match-pairs rank test,  $p = 0.001$ ; 1st DST series, neutral stimuli:  $M=6.53$ ,  $SE=0.17$ ,  $SD=0.96$ ; 2st DST series, stressful stimuli:  $M=7.3$ ,  $SE=0.21$ ,  $SD=1.16$ ), the obtained effect size was medium (Cohen's  $d = 0.7232$ ). There was no significant change in memory capacity in civilian students under stress (n=20, Wilcoxon test,  $p=0.452$ ; 1st DST series, neutral stimuli:  $M=6.78$ ,  $SE=0.23$ ,  $SD=1.02$ ; 2st DST series, stressful stimuli:  $M=6.7$ ,  $SE=0.23$ ,  $SD=1.04$ ). Moreover, there was no significant change in memory capacity in fire cadets that were not under stress (n=20, Wilcoxon test,  $p = 0.628$ ; 1st DST series, neutral stimuli:  $M=6.88$ ,  $SE=0.16$ ,  $SD=0.70$ ; 2st DST series, neutral stimuli:  $M=6.78$ ,  $SE=0.16$ ,  $SD=0.73$ ). Systolic wave amplitude in the stress-exposed groups changed more pronouncedly in students (Mann-Whitney test,  $z=-2.131$ ;  $p = 0.033$ ) compared to cadets.

**Conclusions:** In most of the fire cadets, moderate stress exposure resulted in a memory capacity increase.

**Disclosure:** No significant relationships.

**Keywords:** memory capacity; short-term memory; systolic wave amplitude; stress

## EPV0543

### Cognitive performance under stress: An experimental study in fire cadets

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**Introduction:** Future firefighters are trained and selected for a job requiring the ability to perform well under high stress and time pressure.

**Objectives:** The research is focused on the experimental study of fire cadets' cognitive performance indicators (speed/accuracy) under stress.

**Methods:** The study follows Solomon Four Group Design with two variables: stress stimuli (exposure/non-exposure) and participants' background (50 male fire cadets; 50 male civilian students). Stress stimuli consisted of emergencies' photos, audio, videos. ECG, EMG, systolic wave amplitude, pulse transit time were measured during the experiment to determine the respondents' stress levels. The cognitive reflection test (CRT) was performed. Mann-Whitney U-test, Spearman's rank correlation coefficient were used.

**Results:** There were no differences between students and fire cadets in CRT time ( $p=0.515$ , students:  $118.1 \pm 38.6$  sec, cadets:  $143.5 \pm 78.1$  sec) and accuracy ( $p=0.246$ , students:  $1.2 \pm 0.9$ , cadets:  $1.4 \pm 0.9$ ). Fire cadets in the stress exposure group (mean time=122, mean accuracy=1.22) performed CRT significantly faster ( $p=0.039$ ) than non-exposed cadets (mean time=166, mean accuracy=1.56). The accuracy difference was insignificant ( $p=0.206$ ). Fire cadets with prior emergency work experience (n=30, mean time=159.7, mean accuracy=1.6) were no different from other cadets (n=20, mean time=159.7, mean accuracy=1.1) both in time ( $p=0.289$ ) and accuracy ( $p=0.07$ ). The performance difference between civilian student groups was insignificant (exposure: mean time=123, mean accuracy=1.32; non-exposure: mean time=113, mean accuracy=1.06).

**Conclusions:** Stress exposure enhances fire cadets' CRT performance (in speed, but not in accuracy). Emergency work experience did not contribute to this effect, which could be explained by the self-selection effect (since only people inclined to emergency work choose to become a firefighter).

**Disclosure:** No significant relationships.

**Keywords:** cognitive performance; cognitive reflection test; stress

## Psychosurgery & stimulation methods (ECT, TMS, VNS, DBS)

## EPV0544

### Secondary psychosis after a temporal lobe resection in a patient with refractory epilepsy. A case report

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