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SMOKING DAMAGES EXECUTIVE FUNCTION AND RELATED PROSPECTIVE MEMORY

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Introduction: Independent studies have observed that persistent cigarette smoking is associated with impairments in executive function (EF: the manipulation of information in memory) and prospective memory (PM: remembering future plans and intentions). However, no research to date has considered whether deficits both sets of functions are exhibited in the same cohort of current smokers - which one would expect given that both EF and PM are intimately related.

Aims: The present study examined whether EF and PM deficits were evident in the same cohort of current smokers when compared with a never-smoked group.

Methods: A group of current smokers (CS; N=24) were compared with a control group who had never-smoked (NS; N=24). Scores on the Reserve Digit Span Task (RDST) and the Cambridge Prospective Memory Test (CAMPROMPT) constituted the dependent factors. Age, mood, other drug use and IQ were also measured since these are known to impact upon memory independent of smoking status.

Results: After omitting anyone using an illegal substance (e.g. ecstasy or cannabis) and after observing no between-group differences on age, gender, anxiety, depression, alcohol use and IQ, the CS group performed significantly worse on the RDST and recalled significantly fewer Time-Based and Event-Based tasks on CAMPROMPT, compared the NS group.

Conclusions: Both EF and PM functions are evident in the same cohort of chronic smokers when compared with a never-smoked group. These functions share common resources in the brain and it is feasible that persistent cigarette smoking damages those regions of the brain underpinning these shared resources.

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