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**THE "DOUBLE WHAMMY EFFECT" OF COMBINED SMOKING AND DRINKING UPON EVERYDAY PROSPECTIVE MEMORY AND EXECUTIVE FUNCTION**

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**Introduction:** Excessive alcohol use and persistent smoking have both been found independently to have a deleterious impact upon prospective memory (PM: memory for planning and executing future activities) and executive function (EF: the control of attention in memory) in the past.

**Aims:** The present study examined whether those who simultaneously drank alcohol and smoked were at greater risk of PM and EF deficits compared with an alcohol-only group and a zero-substance user group.

**Methods:** Anyone reporting using illegal substances (e.g. ecstasy/cannabis) were excluded. 23 poly-drug users (PD: those who drank and smoked), 27 single drug users (SD: who only drank alcohol) and 29 zero-users (ZU: who did not use any recreational drug) were compared on measures of anxiety, depression, PM and EF. PM was measured using a virtual reality PM task (VRPMT) in which the participant had to recall specific activities at particular locations when navigating through the computer-based virtual reality 'office' environment. EF was measured using the Reverse Digit Span (RDS) which required the participant to recall increasing numbers of digits in reverse order.

**Results:** There were no significant between-group differences in terms of gender, age, alcohol use (PD and SD only), anxiety, or depression scores. The PD group performed the worst on the VRPMT and RDS tasks; followed by the SD group; with highest performance on these tasks being observed in the ZU group.

**Conclusions:** Combined drinking and smoking produces a kind of 'double whammy effect' on PM and EF, compared with single drug-use and zero-user groups.