

The Effects of Expectancy on Cognitive Performance After a Night's Drinking



Devenney L E, Dr. Coyle K B
Ulster University, Magee (Northern Ireland)

Introduction

It is estimated that over 520,000 people go to work hung-over each day in the UK. A more difficult value to calculate is that of alcohol related impairment the morning after a night's drinking.

It is likely that loss of productivity, lateness, disputes with colleagues, accidents and poorly executed tasks at work due to alcohol hangovers are a considerable expense to our economy.

Investigations aimed at examining the effects of an alcohol hangover on cognitive performance have produced conflicting results. These discrepancies may be due to methodological shortcomings.

The naturalistic approach to hangover research has limited blinding abilities and it is speculated that expectancy effects may contaminate results. The aim of this study was to investigate the effects of expectancy on cognitive performance after a normal night's drinking.

Method

Participants

Seventy four students were recruited at Halls of Residents to take part in a study.

Design

The study followed a two-way between groups design. Group (Hangover/No Hangover) x Condition (Expectancy/No Expectancy).

	Hangover	No Hangover
Expectancy	(20)	(20)
No Expectancy	(20)	(14)

Procedure

Before the testing session, participants in the 'expectancy' condition were informed that the purpose of the study was to investigate the effects of a night's drinking on cognition. The participants in the 'no expectancy' condition were informed that the study would examine the effects of time of day on cognitive functioning.

A series of six cognitive tasks (Selective Attention, Divided Attention, Stroop, Free Recall, Spatial Working Memory and Attentional Set-Shifting) were administered using CANTAB and Superlab programs along with a questionnaire on demographics, mood, sleep and alcohol consumption.

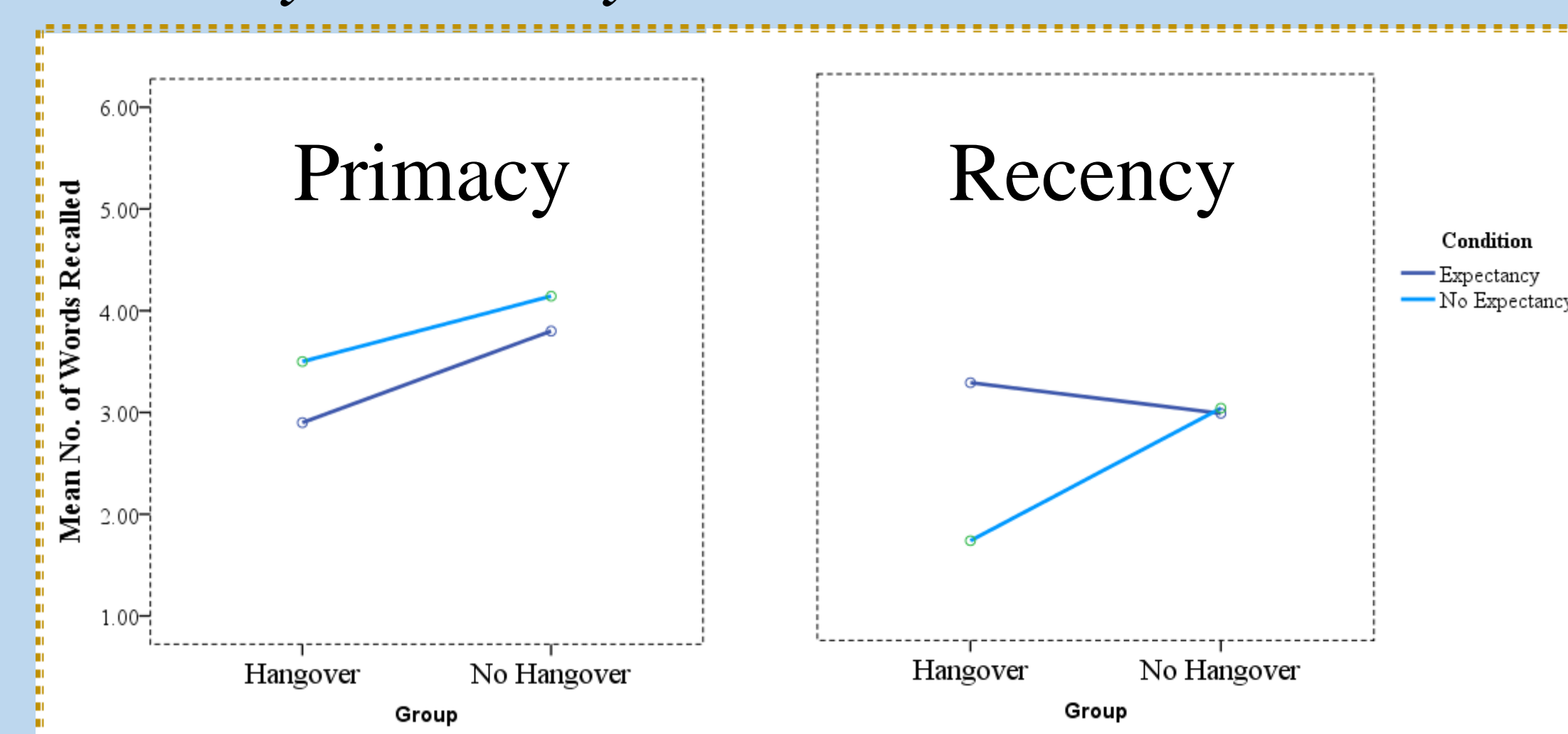
Results- Free Recall

Mean and Standard Deviations for Free Recall

	Hangover			No Hangover		
	Mean	SD	N	Mean	SD	N
Expectancy	8.15	2.87	20	8.25	2.29	20
No Expectancy	6.90	2.49	20	9.29	2.79	14
Total	7.53	2.73	40	8.68	2.52	34

Main effect for Group $F(1, 70)= 4.11 p<0.05$. No main effect for Condition.

Figure 1. Primacy /Recency



Primacy: Main effect for Group $F(1, 70)= 5.89 p<0.05$
Recency: Main effect for Condition $F(1,70)=4.78 p<0.05$
Two way interaction $F(1,70)=5.44 p<0.05$

Discussion

To our knowledge this is the first study to investigate expectancy effects and serial position of word recall in hungover social drinkers.

Participants in the hangover group struggled to retrieve items from the beginning of the word list. Therefore, the rehearsal and transfer of information into the long term memory may be particularly difficult during a hangover.

Hungover participants in the expectancy condition recalled more words from the end of the word list than those in the no expectancy condition.

Although there was no overall main effect for expectancy on free recall, participants in the expectancy condition may have exerted more effort on the free recall task. As participants in the hangover group were unable to strategically bank items from the beginning of the list the increased effort may have only become apparent at the end of the word list.

The next step is to analyse self reported measures of task motivation.