



# Psychological factors affecting hangover severity

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## Background

Harburg et al. (1981,1993) reported that feeling guilty about drinking, and being depressed, angry or anxious while drinking were significantly associated with having more severe hangovers. Also, drinkers who scored higher on neuroticism and had experienced more recent negative life events had more severe hangovers. However, 23% of their sample reported no hangover, and the analysis were not corrected for estimated blood alcohol concentration. The current study aimed to verify and extend these observations in a sample of hungover drinkers.

## Methods

A survey was held among N=323 young adults, 18 to 30 years old. Demographics, alcohol consumption and subjective intoxication, hangover severity, general health and perceived immune fitness, sleep quality and duration, and mood (both baseline in Fiji, and during drinking) were assessed with VAS scales, and neuroticism was assessed with the Eysenck personality questionnaire.

## Results

No significant correlations of hangover severity with mood and stress (baseline or during drinking) were observed. However, hangovers are accompanied by mood changes such as increased acute levels of stress, fatigue, and feelings of guilt about drinking. A regression analysis revealed a model with 38.6% predictive validity including 'level of subjective intoxication' as best predictor of hangover severity (21.1%), followed by perceived immune fitness (5.7%). Other factors (fatigue, days in Fiji, weekly alcohol intake, sleep quality) contributed less than 5% to the model.

### VARIABLES

- Gender
- Age
- BMI
- Weekly alcohol consumption
- Days abroad
- Days in Fiji
- Work versus holiday
- Perceived immune fitness (ISQ)
- General health rating
- Stress (baseline, during drinking, during hangover)
- Anxiety (baseline, during drinking)
- Depression (baseline, during drinking)
- Anger, hostile (baseline, during drinking)
- Being active (baseline)
- Fatigue (baseline, during hangover)
- Guilt about drinking (during hangover)
- Neuroticism (baseline)
- Number of alcoholic drinks consumed on drinking occasion
- Estimated BAC (on drinking occasion)
- Subjective intoxication (being drunk rating)
- Number of cigarettes smoked (on drinking occasion)
- Hours of sleep (after drinking occasion)
- Sleep quality (after drinking occasion)

**DISCUSSION**

This study strongly underlines the importance of psychosocial factors in producing hangover symptoms in drinkers. Guilt about drinking, a decidedly neurotic outlook toward life (as defined by Eysenck's [16] Scale, which includes general guilt and anxiety), succumbing to angry moods or being led into depressed states while tipsy or high, as well as having recently suffered through significant negative life events and having multiple reasons for drinking all may add to the potential for having hangover symptoms after drinking. **These factors appear more important than the amount of alcohol consumed as tested by multiple regression technique.** However, average amount of alcohol consumed clearly contributes to the variance of hangover signs through interaction with psychosocial factors across the spectrum of social drinkers.

In this study, the patterns of interaction predicting to hangover signs differed between men and women. For men, all negative affect variables interacted with alcohol level in separate multiple regression tests (with age and weight) for each psychosocial variable and in bivariate tests. For women, certain main effects were stronger than interaction ones: namely, neuroticism, guilt about drinking, being younger, and first getting drunk at an age earlier than community norms. For women 4 other psychosocial variables showed *only* interaction effects with alcohol: namely, drinking to escape, being angry and/or depressed when drunk, and more negative life events in the past year. Clearly these results for women are more complex than for men.

**adjustment and interpretation**

All of the psychosocial alcohol-related measures used in this study could reflect a chronic condition of "negative affect" [23] whereby, in essence, life is not able to be enjoyed and alcohol is used to alleviate the chronic psychic pain of this underlying state. **The interaction of this emotionality with alcohol then induces hangover signs.**

Harburg et al. 1993

Variables	Model	Contribution
Being drunk	21.1%	21.1%
Perceived immune fitness	26.8%	5.7%
Fatigue (baseline)	30.2%	3.4%
Days in Fiji	33.1%	2.9%
Weekly alcohol consumption	35.9%	2.8%
Sleep Quality	<b>38.6%</b>	2.7%

## Conclusions

**Mood during drinking does not significantly impact next day hangover severity. However, the alcohol hangover state is accompanied by various mood changes and increased stress levels.**

### References

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### Disclosure of interests

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