Reproduced analysis of FARS data

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## Loading tidyverse: ggplot2  
## Loading tidyverse: tibble  
## Loading tidyverse: tidyr  
## Loading tidyverse: readr  
## Loading tidyverse: purrr  
## Loading tidyverse: dplyr

## Conflicts with tidy packages ----------------------------------------------

## filter(): dplyr, stats  
## lag(): dplyr, stats

### Results

Percentages of drivers testing positive by drug type, sex and year group

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Drug type | F 1999-2002 | F 2003-2006 | F 2007-2010 | M 1999-2002 | M 2003-2006 | M 2007-2010 |
| Alcohol | 26.4 | 24.3 | 27.1 | 43.2 | 42.9 | 43.3 |
| Cannabinoids | 2.8 | 5.8 | 7.4 | 6.0 | 10.7 | 12.2 |
| Depressants | 3.5 | 3.9 | 4.9 | 2.0 | 2.5 | 3.2 |
| Narcotics | 4.3 | 5.0 | 7.3 | 2.2 | 3.4 | 4.0 |
| Other | 5.8 | 6.8 | 7.5 | 4.4 | 4.6 | 4.3 |
| Stimulants | 7.3 | 9.3 | 8.9 | 10.7 | 12.3 | 9.5 |

Statistics for testing for trend in prevalence of drugs over study years by drug type using Cocran-Armitage trend test

|  |  |  |
| --- | --- | --- |
| drug | Z | p.value |
| Alcohol | 1.2068039 | 0.2275077 |
| Nonalcohol | 11.5116739 | 0.0000000 |
| Narcotics | 6.7966685 | 0.0000000 |
| Depressants | 4.8494795 | 0.0000012 |
| Stimulants | 0.3589191 | 0.7196556 |
| Cannabinoids | 13.7469060 | 0.0000000 |
| Other | 1.4533546 | 0.1461253 |

Statistics for testing for trend in prevalence of drugs over study years by drug type using Wald test of logistic regression coefficient for year

|  |  |  |
| --- | --- | --- |
| drug | Z | p.value |
| Alcohol | 1.2067804 | 0.2275167 |
| Nonalcohol | 11.4915670 | 0.0000000 |
| Narcotics | 6.7626371 | 0.0000000 |
| Depressants | 4.8337991 | 0.0000013 |
| Stimulants | -0.3589367 | 0.7196424 |
| Cannabinoids | 13.6216300 | 0.0000000 |
| Other | 1.4531887 | 0.1461714 |