



Genetic factors in alcoholic beverage preference in Dutch twins

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Introduction

Alcoholic beverage preference has been associated with risk of alcohol-use disorders (Flensburg-Matsen et al., 2008) and related problems (Smart, 1996).

Aim of the study

To examine to what extent genetic differences can explain differences in alcoholic beverage preference.

Methods

Participants

Twins registered with the Netherlands Twin Register (N=8174) divided into two age cohorts:

- Young: 310 complete MZ male, 237 DZ male, 453 MZ female, 302 DZ female and 464 DZ opposite sex twin pairs aged 14-25
- Old: 162 complete MZ male, 90 DZ male, 527 MZ female, 226 DZ female and 202 DZ opposite sex twin pairs aged 26-80

Measure

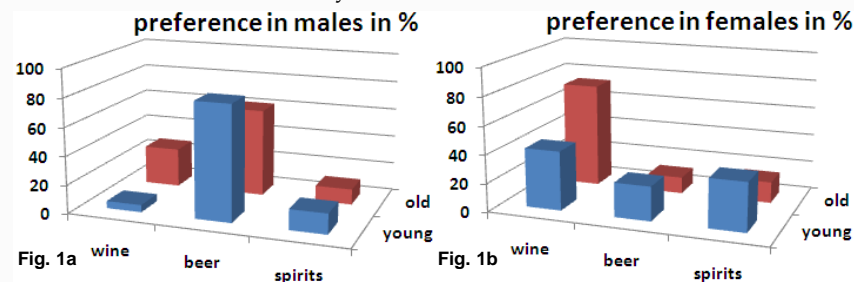
Survey question about alcoholic beverage preference (wine, beer, spirits)

Data analysis

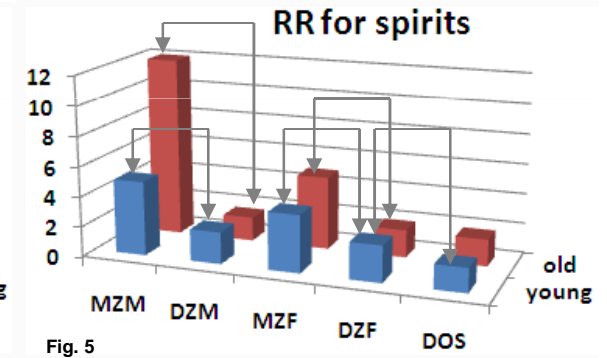
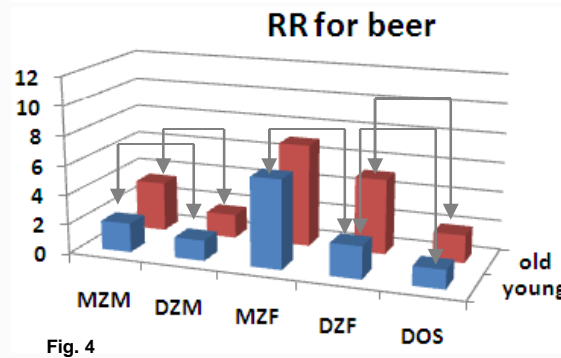
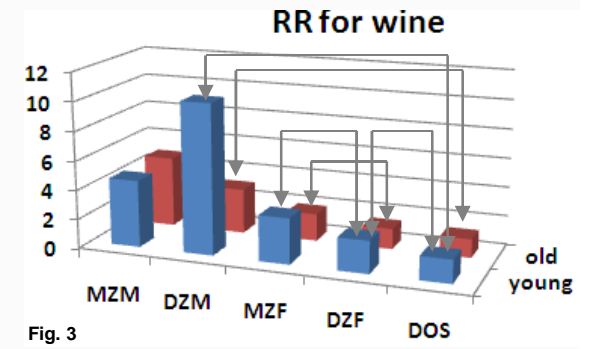
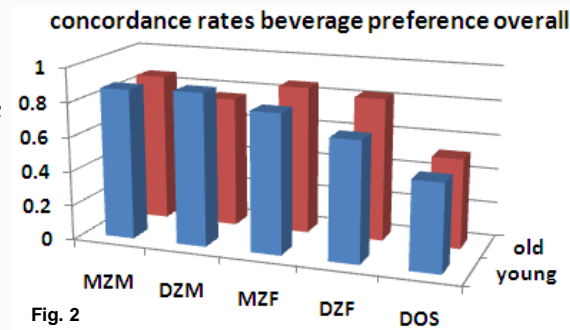
- Calculation of proband concordance rates and relative risks (RR) in complete twin pairs for five zygosity groups, separately for young and older twins.
- Testing of significant differences in RR's with Taylor series 95% confidence intervals using Epi Info (<http://www.cdc.gov/epiinfo/>).

Results

- Beverage preference (fig. 1a-1b) similar for complete and incomplete twin pairs.
- Proband concordance rates and RR's shown in figures 2-5. Significant differences in RR's indicated by arrows.



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Conclusions

- Clear sex differences in beverage preference.
- Shared environmental influences can explain beer preference in older women and wine preference in men.
- A preference for spirits, wine preference in women, and beer preference in men and young women is influenced by genetic factors.
- Concordance in DZ opposite sex twin pairs lower than in same sex twin pairs.

Discussion

The question to be addressed in the future is how the heritability can be estimated for beverage preference that was assessed as a trichotomous variable.

