



# PRENATAL SEX HORMONES AND THE 2D:4D DIGIT RATIO: DEVELOPMENTAL ORIGINS OF HEAVY ALCOHOL CONSUMPTION

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## Introduction

Prenatal testosterone and estrogen exposure determines the growth of finger length, and has also been related to later life risk taking behavior. The purpose of this study was to examine the relationship between the second (2D, index finger) and fourth (4D, ring finger) digit ratio and alcohol consumption.

## Methods

N=448 Dutch students completed a survey on alcohol consumption. For both hands, the 2D and 4D digit lengths were measured using digital vernier calipers. The 2D:4D digit ratio was related to alcohol consumption. In addition, alcohol consumption of subjects with a hawk-type (2D:4D < 1) and dove-type personality (2D:4D > 1) were compared.

## Results

The left 2D:4D digit ratio correlated significantly ( $p < 0.05$ ) with the number of alcoholic drinks per week ( $r = -0.119$ ) and the number of days being drunk ( $r = -0.121$ ).

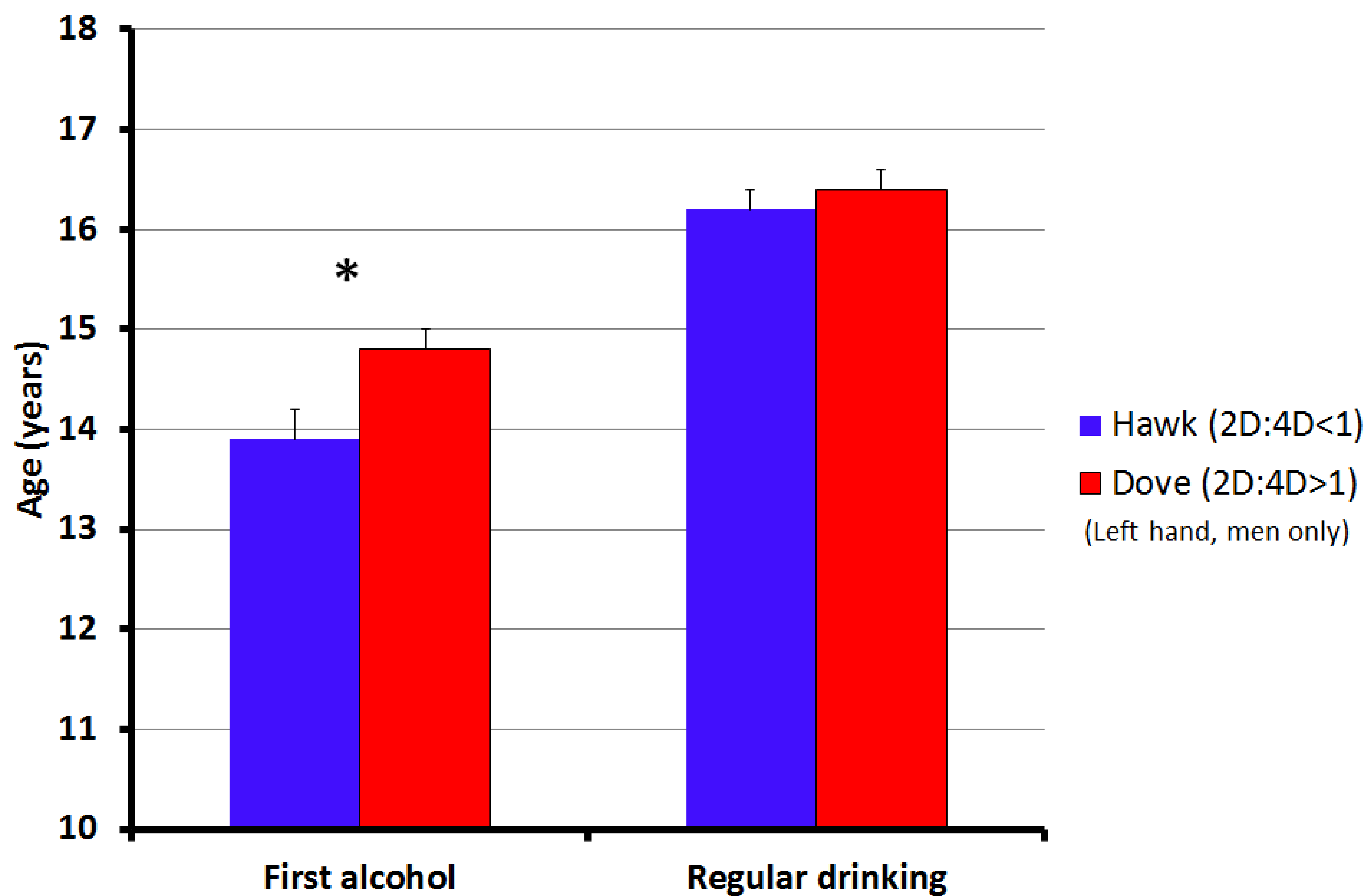
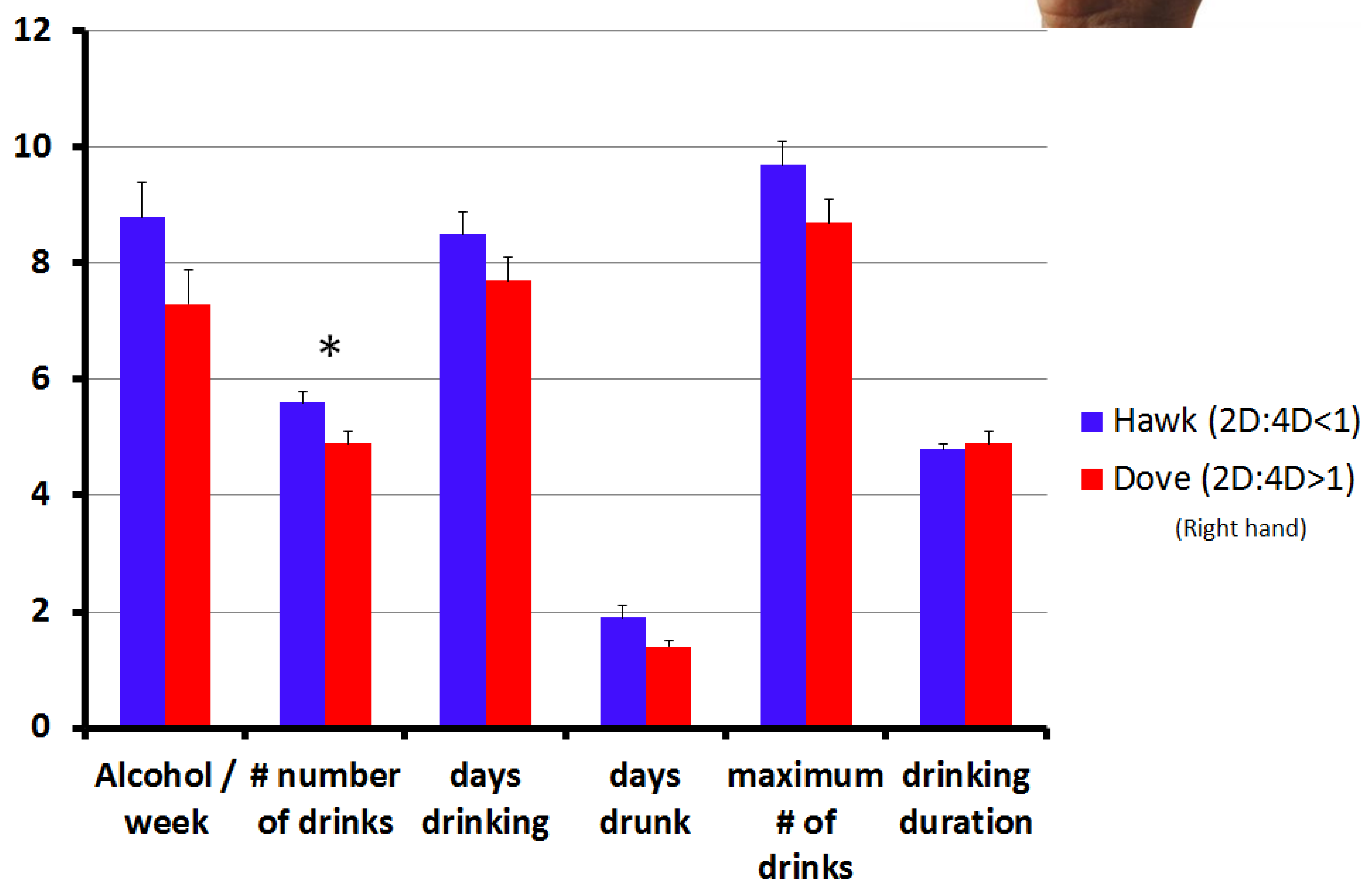
For men, significant correlations were observed between left 2D:4D digit ratio and drinking onset age ( $r = 0.188$ ), and between the right 2D:4D digit ratio and the average number of drinks consumed per occasion ( $r = -0.229$ ), number of alcoholic drinks per week ( $r = -0.185$ ), and the age of regular drinking ( $r = 0.190$ ).

For women, the left 2D:4D digit ratio correlated significantly with the number of days being drunk ( $r = -0.137$ ).

## Discussion & Conclusion

Prenatal sex hormone exposure seems to predict later life alcohol consumption, as subjects with a lower 2D:4D digit ratio tend to consume greater amounts of alcohol.

Although the correlations are only modest, further research into the relationship between prenatal sex hormone exposure, 2D:4D digit ratio and alcohol consumption is warranted.



### Disclosure of Interest Statement:

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