

BEHAVIORAL GENETICS

PSYCH 3102

Dr Hewitt

HOMEWORK # 6 AND PRACTICE EXAM 4.

NAME _____

DATE _____

1. Matching

The proportion of phenotypic variance due to all effects of genes. _____

Genes that have been associated with the risk for alcoholism in some recent studies. _____

The proportion of a population having a disorder. _____

Commonly employed measures of substance abuse. _____

A measure of the resemblance between 2 people for a dichotomous trait. _____

risk	prevalence	quantity and frequency	ALDH and DRD2
concordance	correlation	Type I alcoholism	Type II alcoholism
DSM-IV	alcohol dependence	factor analysis	heterozygosity
additive genetic variance		broad heritability	narrow heritability
anticipation		non-additive genetic variance	

Twin, family and adoption studies

The following table gives the reported correlations for family members for two aspects of personality. Assume that sample sizes are large.

<u>Relationship</u>	<u>Correlations</u>	
	<u>Extraversion</u>	<u>Neuroticism</u>
Raised together		
MZ	0.51	0.46
DZ	0.18	0.20
Parent/offspring	0.16	0.13
Siblings	0.20	0.09
Raised apart		
MZ	0.38	0.38
DZ	0.05	0.23
Adoptive		
Parent/offspring	0.01	0.05
Siblings	-0.07	0.11
Spouses	0.03	0.02

Base your answers on these correlations

a. What is the narrow heritability for neuroticism?

Show how you got this

b. Which trait shows the most evidence for non-additive genetic influences?

Justify your answer.

c. What evidence leads us to conclude that there is no assortative mating for these personality traits?

d. Why do we conclude that there are genetic influences on personality?

Give evidence for your answer.

e. What is the evidence that the shared family-rearing environment has little or no influence on adult personality?

f. Why do we conclude that the non-shared environment has important consequences for personality development?

Justify your answer.

e. Are there differences between early and late onset alcoholism?

f. What progress is being made towards identifying individual genes that might contribute to the risk for alcoholism?