

Reading Paper

Exam Center _____
Date of test _____
Test-taker ID _____

<http://medicalenglishtests.eu/>



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Read the article below, then according to what you have read complete Task Sheet 2.

The Genetics of Schizophrenia

(1) A substantial body of epidemiological research has established a set of risk factors for schizophrenia. Of a large set of pre- and antenatal risk factors [6], having a first-degree relative with schizophrenia is associated with an odds ratio of almost ten. The general impact of some of the risk factors remains uncertain, and, additionally, migrant status, urban residence, cannabis use, and biological sex are supported as risk factors for schizophrenia. Although the attributable risk of some of these risk factors may be greater [7], the size of the odds ratio for family history suggests that searching for the familial determinants of schizophrenia is rational for etiological research.

(2) Studies of families, adoptees, and twins have been widely used to attempt to understand the relative contributions of genetic and environmental effects upon risk for schizophrenia. These “old genetics” approaches use phenotypic resemblance of relatives as an indirect means by which to infer the roles of genes and environment. There are many important assumptions and methodological issues with these studies [8]; however, genetic epidemiological studies of schizophrenia have yielded a remarkably consistent set of findings.

(3) Schizophrenia—like most other complex traits in biomedicine—has had a large number of genetic case-control association studies [19]. Although research practice is changing, interpretation of many studies is hindered by small sample sizes and a tendency to genotype a single genetic marker of the hundreds that might be available in a gene. For example, a widely studied functional genetic marker in *COMT* (rs4680) is probably not associated with schizophrenia [20], but nearby genetic markers assessed in a minority of studies may be [21].

However, as discussed in the next section, a number of methodologically adequate association studies of schizophrenia appear to support the role of several candidate genes in the etiology of schizophrenia. Similar to the linkage study data, “hard” replication remains elusive.

(4) The public health importance of schizophrenia is clear, and the rationale for the search for genetic causes is strong. Schizophrenia research has never been easy: the current epoch of investigation into the genetics of schizophrenia provides a set of tantalizing clues, but definitive answers are not yet fully established. Findings from the accumulated literature appear to be more than chance yet sufficiently variable as to render “hard” replication elusive.

This body of work is not yet ready for wholesale translation into clinical practice. However, it is not premature to inform patients that this work is advancing and that it holds promise for new insights into etiology, pathophysiology, and treatment on the five- to ten-year horizon. On a larger scale, the treatment of the mentally ill mirrors the humanity of a society; in many societies, the return image is not flattering.

(454 words)

Source: <https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.0020212>; © 2005 Patrick F. Sullivan.

TASK SHEET 2

1) Match the phrases expressing the message of a given paragraph (A-F) with the appropriate number indicating the paragraph (1 - 4). There are two options that do not match any of the paragraphs.

A	Genom-wide Linkage Studies of Schizophrenia	
B	Public Health Implications	
C	Unpacking Family History Risk Factors	
D	Synthesis	
E	Etiological Clues	
F	Association Studies of Schizophrenia	

/4 points

2) Choose the best answer (A, B, C, or D) in each question according to what you have read.

Q01

	A	No studies in the field of epidemiology have revealed any risk factors of developing schizophrenia.
	B	Schizophrenia is inherited if both parents suffer from this mental disease.
	C	There is a 90% chance not to inherit schizophrenia if the mother does not suffer from the disease.
	D	If the father suffers from schizophrenia his child has nearly a 10% chance to develop this mental disorder.

Q02

	A	Living conditions may be responsible for the development of schizophrenia.
	B	Drug use leads to schizophrenia even if the parents do not suffer from the disease.
	C	Gender has been determined as the most important risk factor for schizophrenia.
	D	Genetics play the most dominant role in developing schizophrenia.

Q03

	A	Research on familial determinants has determined the genetic and environmental risk factors for schizophrenia.
	B	Twin studies have demonstrated evidence to understand the genetic background of schizophrenia.
	C	Adopted children are not likely to develop schizophrenia as long as the environmental factors in the family are appropriate.
	D	The role of environmental risk factors in the development of schizophrenia has not been pointed out clearly.

Q04

	A	Schizophrenia develops due to phenotypical similarity among family members.
	B	Traditional studies of schizophrenia did not investigate the effects of genetics and environment on the disease.
	C	Up-to-date genetics methods do not consider familial phenotype correspondence as a key risk factor for schizophrenia.
	D	Phenotype studies may help to understand the function of both the genes and the surroundings in the development of schizophrenia.

Q05

	A	Case-control association studies have yielded the most reliable results in understanding why schizophrenia occurs.
	B	Modern investigation approaches can assess even small sample sizes effectively.
	C	Researchers believe that it is possible to genotype a single gene, which is responsible for schizophrenia.
	D	There are more than one hundred genetic markers of schizophrenia in a gene.

Q06

	A	The rs4680 functional genetic marker has been shown not to cause schizophrenia.
	B	The rs4680 functional genetic marker might be responsible for schizophrenia.
	C	Schizophrenia appears due to the genetic markers adjacent to the rs4680 functional genetic marker.
	D	Genetic markers resembling the rs4680 functional genetic marker lead to schizophrenia.

Q07

	A	Recent research presented that candidate genes are responsible for schizophrenia.
	B	Candidate genes seem to have an influence on the development of schizophrenia.
	C	The etiology of schizophrenia is mostly investigated by methodologically adequate association studies.
	D	Linkage studies have revealed that the gene responsible for schizophrenia cannot replicate.

Q08

	A	Since schizophrenia is a rare mental disorder it has a negligible effect on public health.
	B	It is supported to keep on performing research especially in the field of genetics to understand the etiology of schizophrenia.
	C	Etiological research of schizophrenia has become less demanding with the application of the new advances in genetics.
	D	Recent genetic studies of schizophrenia have yielded a set of frightening results.

Q09

	A	The present results to understand the etiology of schizophrenia cannot be applied by clinicians in the daily care of patients.
	B	We will be able to treat schizophrenia in about ten years.
	C	Patients should be informed about the etiology, pathophysiology and treatment of schizophrenia in about 5-10 years.
	D	In a large number of countries schizophrenic patients are not treated properly.

/13 points

Points:

/13

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A	Genom-wide Linkage Studies of Schizophrenia	-
B	Public Health Implications	4
C	Unpacking Family History Risk Factors	2
D	Synthesis	-
E	Etiological Clues	1
F	Association Studies of Schizophrenia	3

/4 points

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X	D	If the father suffers from schizophrenia his child has nearly a 10% chance to develop this mental disorder.

Q02

X	A	Living conditions may be responsible for the development of schizophrenia.
	B	Drug use leads to schizophrenia even if the parents do not suffer from the disease.
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X	D	Phenotype studies may help to understand the function of both the genes and the surroundings in the development of schizophrenia.

Q05

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	B	Modern investigation approaches can assess even small sample sizes effectively.
X	C	Researchers believe that it is possible to genotype a single gene, which is responsible for schizophrenia.
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X	B	The rs4680 functional genetic marker might be responsible for schizophrenia.
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/13 points