Alcoholism

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Outline

• What is alcoholism?
• What is the argument?
• Genetic factors
  – DRD2 gene
  – Acetaldehyde
  – Fetal Alcohol Syndrome (FES)
  – Twins/Adoption studies
• Environmental factors
  – Social-USMC study
  – Desired states of consciousness
  – Cultural
  – Disputes to the Genetic Factors
• CONCLUSION
What is it?

- History
- DSM-IV
  - Alcohol dependence
    - same as alcoholism
  - Tolerance
  - Withdrawal
    - “the shakes”
    - Delirium tremens
  - Alcohol abuse
What’s the big fuss?

- Is it a physiological disease?
  - Genes
  - Heredity
- Personality
  - Character inadequacy/emotional weakness
- Home/Social environment
Genes

• “These genes are for risk, not for destiny.”

Dr. Enoch Gordis, director of the National Institute on Alcohol Abuse and Alcoholism
Genes

- Experimental techniques
- DRD-2 (Dopamine D-2 Receptor)
- Blum
- In animals
  - Reward, reinforcement, and motivation
- Severity rather than primary cause
Genes

- Acetaldehyde
  - Byproduct of alcohol metabolism
- In non-alcoholics
- In alcoholics
  - Breakdown into acetate about $\frac{1}{2}$ the rate
- Due to drinking or does drinking cause it?
- Isoquinolines
Fetal Alcohol Syndrome (FES)

- Mom drinks while pregnant
- Baby addicted when born?
- Already an alcoholic
  - “first” drink triggers
- Instant Alcoholic
Twins

- Pickens
- 169 same-sex pairs of twins
  - At least one had sought treatment for alcohol
- Identical twins
- Fraternal twins
- Boys vs. girls
- Severity of alcohol abuse
Adoption

- Donald Goodwin
- Children of alcoholics taken from their parents at birth
- Four times the risk
- Brother study-one reared by alcoholic parent; one not
- Problem drinking vs alcoholism
Environment

- Social inclusion
- U.S. Marine Study
- 1320 Marines from 4 Infantry Battalions
- 3 research instruments
- College total score: 3.8+or-1.94
- Marine score: 8.4+or-3.16
- Why?
Cultural

- Religious beliefs
- Flushing
  - Asians
  - Native Americans
- Medicinal Traditional
- Access
States of Consciousness

- Transform their emotions and their self-image
- Achieve power, sexual attractiveness, or control over unpleasant emotions
## Access

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Time Exposure</th>
<th>Susceptibility to Alcoholism</th>
<th>Alcoholism Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jews, Italians</td>
<td>7,000+ years</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Scandinavians, Irish, French</td>
<td>1,500 years</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>North American Indians, Eskimos</td>
<td>300 years</td>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>
Disputes to Genetic Factors

- Donald Goodwin
  - Adoption study

- Only 18% of males with alcoholic biological parents became alcoholics

- 5% of those without alcoholic parents
Replicability

- Lack thereof
- Brainwave studies
- Acetaldehyde studies
CONCLUSION

• “Alcohol consumption is influenced by a combination of environmental and genetic factors.”

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