## Outline and evaluate the biological explanation of smoking (8+16)

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<th>AO1</th>
<th>AO2/3</th>
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<td><strong>Initiation</strong>&lt;br&gt; - Genetics; heritability of tobacco smoking is to be between 39%-80%&lt;br&gt; - <em>Vink et al</em>; found for M/F individual differences were explained by genetics (44%)</td>
<td><strong>P:</strong> Genetics influences whether or not one will smoke&lt;br&gt; <strong>E:</strong> <em>Vink et al</em>; found 44% genetics concordance rate in twins that had one smoke&lt;br&gt; <strong>E:</strong> Genetics does contribute&lt;br&gt; But 56% was environmental factors, showing it’s too reductionistic as it isn’t just genetics that contributes&lt;br&gt; - <em>Thorgeirsson et al</em>; genetic factors may not determine smoking initiation, but make it more likely that some smokers will become dependent on nicotine when they do start smoking.</td>
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<td><strong>Maintenance</strong>&lt;br&gt; - Effects of nicotine&lt;br&gt; - <em>Vink et al</em>; nicotine dependence was influenced primarily by genetic factors (75%)&lt;br&gt; - Nicotine effects brain chemistry by activating nAChRs in the brain, leading to release of dopamine&lt;br&gt; - Release of dopamine leads to ST pleasure, leading to mood/concentration impairment&lt;br&gt; - Negative effects can be alleviated by smoking another&lt;br&gt; - Smokers repeat the cycle to avoid withdrawal symptoms&lt;br&gt; - Dopamine is produced in several areas of the brain and effects the way messages are relayed from a nerve cell to target cell&lt;br&gt; - Responsible for reward-driven learning&lt;br&gt; - <em>Buka et al</em>; women that smoked heavily in pregnancy doubled the risk of their child being addicted to tobacco</td>
<td><strong>E:</strong> Too reductionistic as it limits a complex mental issue to simply biological reasoning.</td>
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<td><strong>Relapse</strong>&lt;br&gt; - <em>Xian et al</em>; found the ability to quit smoking is subject to genetic influences.</td>
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