--- Genetic vulnerability exacerbated by stress leads to negativity bias, automatic sensitivity to negative emotion, loss of thinking functions and feelings of depression.

<table>
<thead>
<tr>
<th>MDD / Depression</th>
<th>Disposition</th>
<th>Emotion</th>
<th>Feeling</th>
<th>Thinking</th>
<th>Self Regulation</th>
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</thead>
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<tr>
<td>5-HTTLPR Short Allele with ↑ Stress</td>
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<td>↑ Prolonged Depressed Mood</td>
<td>Slow Response Speed</td>
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<td>COMT Met with ↑ stress</td>
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<td>↓ Executive Function</td>
<td>Altered HPA Activity</td>
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<td>BDNF Met66 Polymorphism with ↑ Stress</td>
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<td>↓ Attention Concentration</td>
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**Markers of Major Depression Disorder**

**Disposition**
- 5-HTTLPR Short Allele with ↑ Stress
- COMT Met with ↑ stress
- BDNF Met66 Polymorphism with ↑ Stress
- ↓ Hippocampal Grey Matter

**Emotion**
- ↑ Negative Emotion Bias
- ↑ Amygdala Activation to Negative Emotions
- ↑ EEG Alpha Asymmetry

**Feeling**
- ↑ Prolonged Depressed Mood
- Altered Ventral-dorsal-prefrontal Activity

**Thinking**
- Slow Response Speed
- ↓ Executive Function
- ↓ Attention Concentration
- ↓ Impulsivity
- ↓ Memory
- ↓ ERP P300

**Self Regulation**
- ↑ Negativity Bias
- Altered HPA Activity
- ↓ Heart Rate Variability

*ERP P300 for Attention tasks
HPA: hypothalamic-pituitary-adrenal axis*
MDD References


