Figure 1. A Stress–Attachment–Mentalizing (SAM) Model of Depression.

**DOMAINS**

- **Behavior**
  - Stress sensitivity $\uparrow$
  - Stress generation $\uparrow$
  - Predominance of secondary attachment strategies: 
    - Attachment hyperactivating
    - Attachment deactivating
  - Mentalizing impairments

- **Circuits and physiology**
  - Stress system
    - Allostatic load
    - Imbalance in mesolimbic–mesocortical circuits
  - Mentalizing system
    - Imbalance in cognitive/controlled–affective/automatic mentalizing

- **Genes**
  - e.g. 5HT, BDNF, COMT
  - e.g., DRD1, OXTR, AVPR1A, MOR
  - e.g., 5HTT, OXTR, COMT, ?
Figure 2. Adolescence and Major Pathways to Depression.

Major developmental challenges

- Stress
  - Problems with agency/autonomy e.g. failure, loss of social status
  - Relationship difficulties e.g., social loss, rejection

Structure and functional reorganization of neural circuits involved in attachment/reward and mentalizing in adolescence

- Reward ↓
- Mentalizing ↓

Secondary attachment strategies

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