4 Neural Systems of Self Processing (“Selfing”) modulated by mindfulness-based meditation practice

**Narrative Self – [Hippocampal-Cortical Memory System]**
- Evaluative Processing
- Autobiographical (self-referential) memory processing
- Mind-wandering (past and future processing)
- Default Network

**Experiential Self - [Sensory/Central Executive Network]**
- Primary Interoceptive & Exteroceptive processing without evaluation; mental noting
- Executive Processing – Basic attention (engagement/disengagement), Working Memory (Maintaining Set)

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Enactive Self - [Dorsal Attention Network/pre-motor network]
- Basic Attentional processing (alerting, orienting)
- Non-conscious sensory-affective-motor processing
- Action Tendencies and automatic processing

Integrative/Meta-Self processing [fronto-parietal control network]
- Higher-order Attentional processing (executive monitoring, non-conceptual meta-awareness)
- Flexible switching between networks and integration of information
- Multi-tasking, prosocial memory

Lazar et al., 2000; Ritskes et al., 2003; Brefczynski-Lewis et al., 2007; Farb et al., 2007; Holzel et al., 2007; Pagnoni et al., 2008; Baerensten et al., 2010; Manna et al., 2010; Ives-Deliperi et al., 2011; Brewer et al., 2011; Hasenkamp et al., 2012; Vago et al. in prep)

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Six Neurocognitive Skills

Core Mindfulness-based Meditation Practices (Focused Attention, Open Monitoring, Loving-kindness, Hatha Yoga) improve Self-Awareness, Self-Regulation, & Self-transcendence (S-ART)

• 1) Intention & Motivation
  – Effortful to Effortless
  – Self-focused to Other-focused

• 2) Attention Regulation
  – Stability, Control (flexible engagement)
  – Meta-awareness (de-centering & executive monitoring)

• 3) Emotion Regulation
  – Equanimity,
  – Inhibitory control

• 4) Extinction and Reconsolidation
  – Mental habits & biases shifted toward adaptive trajectories

• 5) Prosociality
  – Empathy, Theory of Mind, & Altruistic Behavior

• 6) Sensory Clarity
  – Embodied cognition