SCIENTIFIC SUMMARY:

THE CONSTITUENTS OF PSYCHOLOGICAL WELL-BEING
Scientific clarity

**STRONG** evidence for meta-awareness and attention regulation as clearly defined scientific constructs.

- *The lights are on but no one’s home: Meta-awareness and the decoupling of attention when the mind wanders*

Decentering and related constructs: *A critical review and metacognitive processes model*

- *Evidence for impact on well-being*

**STRONG** evidence for the relationship between meta-awareness and attention and well-being.

- *Altered anterior insula activation during anticipation and experience of painful stimuli in expert meditators.*

- *A wandering mind is an unhappy mind.*

- *The neuroscience of mindfulness meditation.*

- *Mental training affects distribution of limited brain resources.*

- *Mental training enhances attentional stability: neural and behavioral evidence.*

- *Short-term meditation training improves attention and self-regulation.*

- *Initial evidence that meta-awareness, specifically, can be trained as part of these interventions.*

Evidence of neural basis

**EMERGING** evidence for the neural basis of meta-awareness and attention. Better measures needed for meta-awareness.

- *Altered anterior insula activation during anticipation and experience of painful stimuli in expert meditators.*

Evidence for trainability

**STRONG** evidence that mindfulness interventions are beneficial. Initial evidence that meta-awareness, specifically, can be trained as part of these interventions.

- *Initial evidence that meta-awareness, specifically, can be trained as part of these interventions.*

- *Mental training enhances attentional stability: neural and behavioral evidence.*
Scientific clarity

**STRONG** evidence for person construal, prosocial motivation, and empathic concern as clearly defined scientific constructs.

- **Self-transcendent emotions and their social functions**: Compassion, gratitude, and awe bind us to others through prosociality
- **Empathic concern and the desire to help as separable components of compassionate responding**

Evidence for impact on well-being

**EXEMPLARY** evidence for the relationship between the quality of interpersonal connections and well-being; emerging evidence on the specific processes mentioned above in relation to well-being.

- **Structures and processes of social support**
- **Social support and protection from depression**: systematic review of current findings in Western countries
- **Social neuroscience and health**: neurophysiological mechanisms linking social ties with physical health

Evidence of neural basis

**EMERGING** evidence for the neural basis of prosocial qualities like compassion.

- **The neuroscience of empathy**: progress, pitfalls and promise
- **Empathy and compassion**

Evidence for trainability

**EMERGING** evidence that prosocial qualities can be trained. More robust interventions and measures needed to further research in this area.

- **Compassion training alters altruism and neural responses to suffering**
- **Buddhist-derived loving-kindness and compassion meditation for the treatment of psychopathology**: A systematic review
INSIGHT
Self-acceptance, self-knowledge, and qualities that promote a healthy sense of self

Scientific clarity

**EMERGING** understanding about the importance of insight. More work needed to further define the construct and its relevance to psychological health.

- Cognitive insight: A systematic review
- Self-centeredness and selflessness: A theory of self-based psychological functioning and its consequences for happiness

Evidence for impact on well-being

**LIMITED** research in this area. Better measures and scalable interventions needed.

- Insight, rumination, and self-reflection as predictors of well-being
- Hypo-egoic self-regulation: Exercising self-control by diminishing the influence of the self

Evidence of neural basis

**EMERGING** evidence for the neural basis of insight. More work needed specifically on insight brought about through contemplative practice.

- Neural mechanisms of cognitive reappraisal of negative self-beliefs in social anxiety disorder
- Negative affectivity, self-referential processing and the cortical midline structures

Evidence for trainability

**MODERATE** evidence that insight can be trained, although research is limited to clinical populations and advanced meditators.

- Insight meditation and telomere biology: The effects of intensive retreat and the moderating role of personality
- Short-term meditation modulates brain activity of insight evoked with solution cue
PURPOSE
Clear values and a sense that one's life and pursuits are meaningful

Scientific clarity

**EXTENSIVE DISCUSSION** of meaning and purpose in scientific literature, but constructs are in need of further development.

- The three meanings of meaning in life: Distinguishing coherence, purpose, and significance
- Purpose in life as a system that creates and sustains health and well-being: an integrative, testable theory

Evidence for impact on well-being

**EXTREMELY STRONG** evidence for the relationship between the quality of meaning and purpose and both psychological well-being and physical health.

- On the relation between meaning in life and psychological well-being
- Purpose in life and its relationship to all-cause mortality and cardiovascular events: A meta-analysis
- Purpose in life predicts better emotional recovery from negative stimuli

Evidence of neural basis

**PRELIMINARY** evidence for the neural basis of meaning and purpose.

- Neural correlates of the 'good life': eudaimonic well-being is associated with insular cortex volume
- Pleasure attainment or self-realization: the balance between two forms of well-beings are encoded in default mode network

Evidence for trainability

**EMERGING** evidence that meaning and purpose can be trained.

- Improvement in personal meaning mediates the effects of a life review intervention on depressive symptoms in a randomized controlled trial
- Prosociality enhances meaning in life
READING LIST


