Vipassana Meditation: An Endogenous, Feedback-centred Approach to Human Mental Well-being

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"Peace comes from within. Do not seek it without."

– The Buddha

Overview

- Introduction to Vipassana meditation
- Scientific literature on meditation
- Model
- Scenarios
- Conclusion

Vipassana Meditation

- *Vipassanā* in the Pāli language means "to see things as they really are," "insight," or "introspection."

- A technique of meditation developed and taught in India by Siddhartha Gautama (known as *The Buddha*) around 2,500 years ago.

- S.N. Goenka (1924-2013), a retired Indian industrialist, had great success in widely spreading the practice in many countries.

- Taught in 10-day residential retreats where participants spend most of their hours meditating according to recorded instructions by Goenka.

Vipassana Meditation (cont'd)

- Students remain within the course site and are asked to follow a few precepts, including 'noble silence'.
- *Ānāpānasati* (mindfulness of breathing meditation)
  - Introductory technique: first three and a half days
  - Learning to observe and remain conscious of the (natural, normal) breath – as it comes in and goes out.
  - Sharpens and quiets the mind and prepares it for Vipassana meditation.
- Vipassana meditation
  - Starting Day 4: Students are instructed to repeatedly scan their body from head to feet (body sweep) for normal physical sensations such as heat, cold, pressure, tension or itching.
  - Remaining not just aware but also equanimous and non-reactive to all such sensations.

Equanimity

- To not identify with sensations and just observe as they arise and pass away

- meta-awareness / experiential defusion

- Keeping in mind the impermanent and transitory nature of all sensations and phenomena.

- Suffering emerges because people fail to appreciate this impermanence, and become attached to things, beliefs, or sensations.

Literature

A. Psychological, behavioural and therapeutic effects of meditation

B. Effects of meditation on the structure of the brain

Literature (Psychology)

- Systematic meta-study (Sedlmeier et al. 2012) found robust evidence that meditation practice is associated with an array of cognitive and emotional benefits.
  - Reduction in symptoms of anxiety and mood disorders
  - Addressing risky behaviours (e.g. overeating and substance dependence)
  - Emotion regulation
  - Managing pain
  - Improving mental and emotional health
- More precise theories and measurement devices are needed to reach a more comprehensive understanding of _why_ and _how_ meditation works.

Literature (Neuroscience)

- Systematic meta-study (Fox et al. 2014) finds eight brain regions shown to be altered as a result of meditation, including areas key to
  - meta-awareness (*frontopolar cortex/BA 10*)
  - exteroceptive and interoceptive body awareness (*sensory cortices and insula*)
  - memory consolidation and reconsolidation (*hippocampus*)
  - self and emotion regulation (*anterior and mid cingulate; orbitofrontal cortex*)
  - intra- and interhemispheric communication (*superior longitudinal fasciculus; corpus callosum*)
- Results show regional consistency and relatively large magnitude (Fox et al., 2014, p. 69).

Literature (Summary)

- Further research is needed to find <u>the underlying mechanisms</u> through which the beneficial results are achieved (Dahl et al., 2015).

Method

- Simple conceptual SD model based on its theory as documented in *Vipassana Meditation: The Art of Living as taught by S.N. Goenka,* by William Hart (1987)

- Aim: to <u>formalise</u> Vipassana's dynamic theory and test its <u>internal validity</u>
  - I take the assumptions of the traditional theory behind Vipassana as given and then verify their dynamic implications against its claimed results.
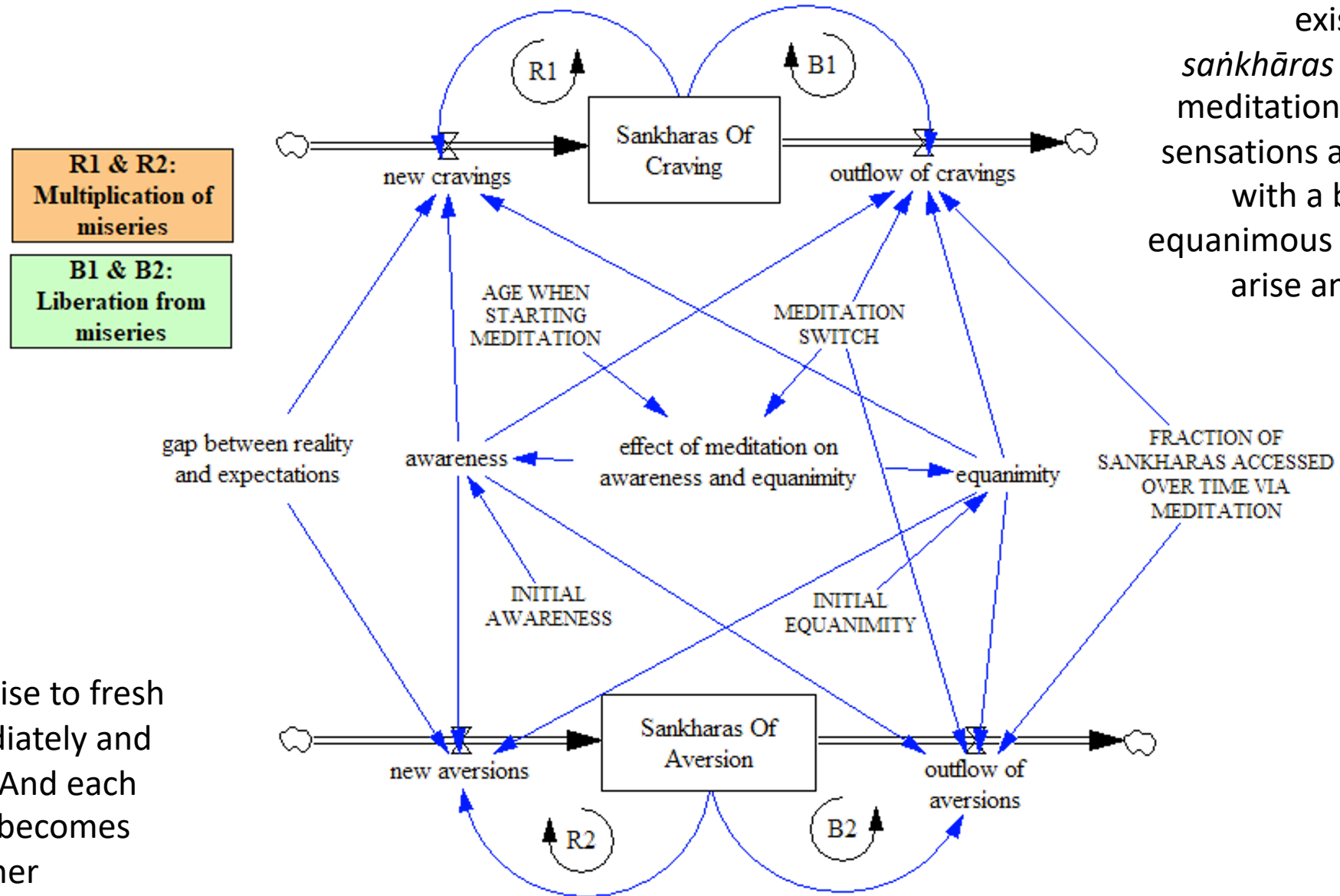
Processes of the mind in Buddhism

1. *Consciousness:* becoming aware

2. *Perception:* recognising and labelling

3. *Sensation*: pleasant or unpleasant

4. *Reaction* (*saṅkhāra*): craving or aversion

- Some of these *saṅkhāras* (mental reactions) are like "lines drawn on the surface of a pool of water: as soon as they are drawn they are erased. […] Others are like lines cut deeply into rock. It will take ages for them to disappear (Hart, 1987, p. 38)."

- Each one of us has a stock of these long-lasting *saṅkhāras*.

- Such *saṅkhāras* are the sources of human misery.

Model

The way to eradicate the existing stock of *saṅkhāras* is to practice meditation and observe sensations and emotions with a balanced and equanimous mind as they arise and pass away.

R1 & R2:
Multiplication of miseries

B1 & B2:
Liberation from miseries

Sankharas Of Craving

new cravings

outflow of cravings

R1

B1

AGE WHEN STARTING MEDITATION

MEDITATION SWITCH

gap between reality and expectations

awareness

effect of meditation on awareness and equanimity

equanimity

FRACTION OF SANKHARAS ACCESSED OVER TIME VIA MEDITATION

INITIAL AWARENESS

INITIAL EQUANIMITY

Sankharas Of Aversion

new aversions

outflow of aversions

R2

B2

R1&R2

A *saṅkhāra* can give rise to fresh reaction, both immediately and in the distant future. And each subsequent reaction becomes the cause of still further reactions (Hart, 1987).

(i) Baseline Simulation

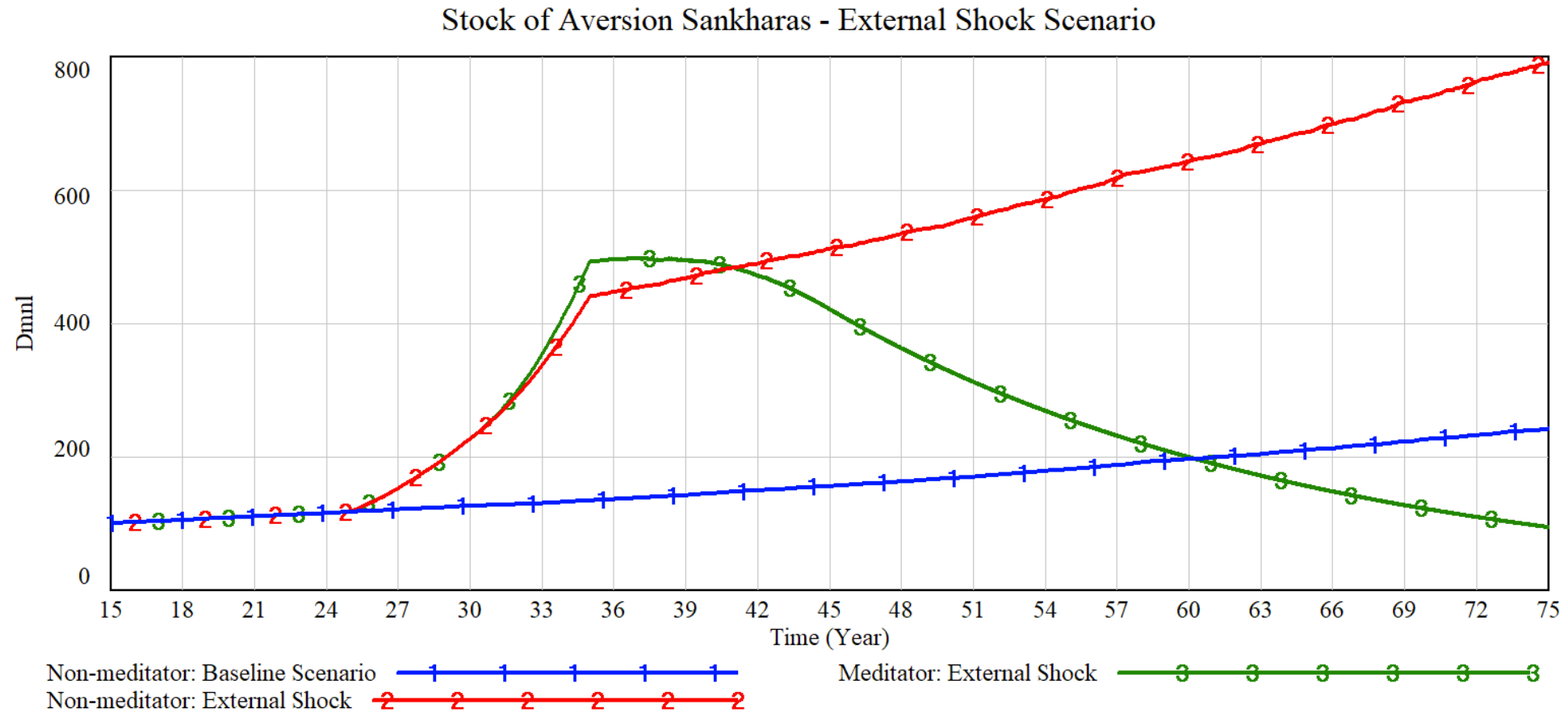Sankharas of Craving: Meditator vs. Non-meditator
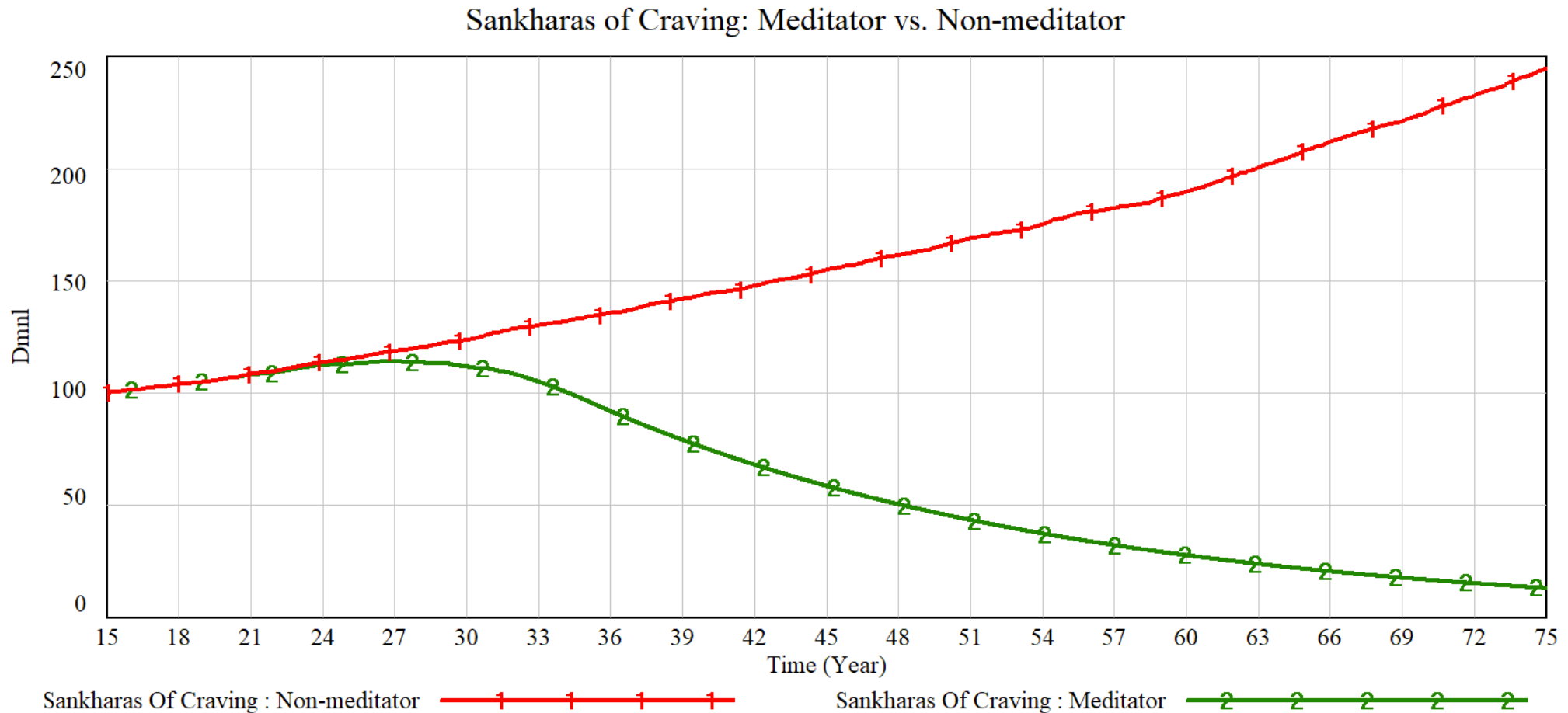
- Non-meditator: Loop R1 (*multiplication of miseries*) is dominant.
- Meditator: Loop B1 (*liberation from miseries*) is dominant.

(ii) External Shock Scenario

Gap between Reality and Expectations
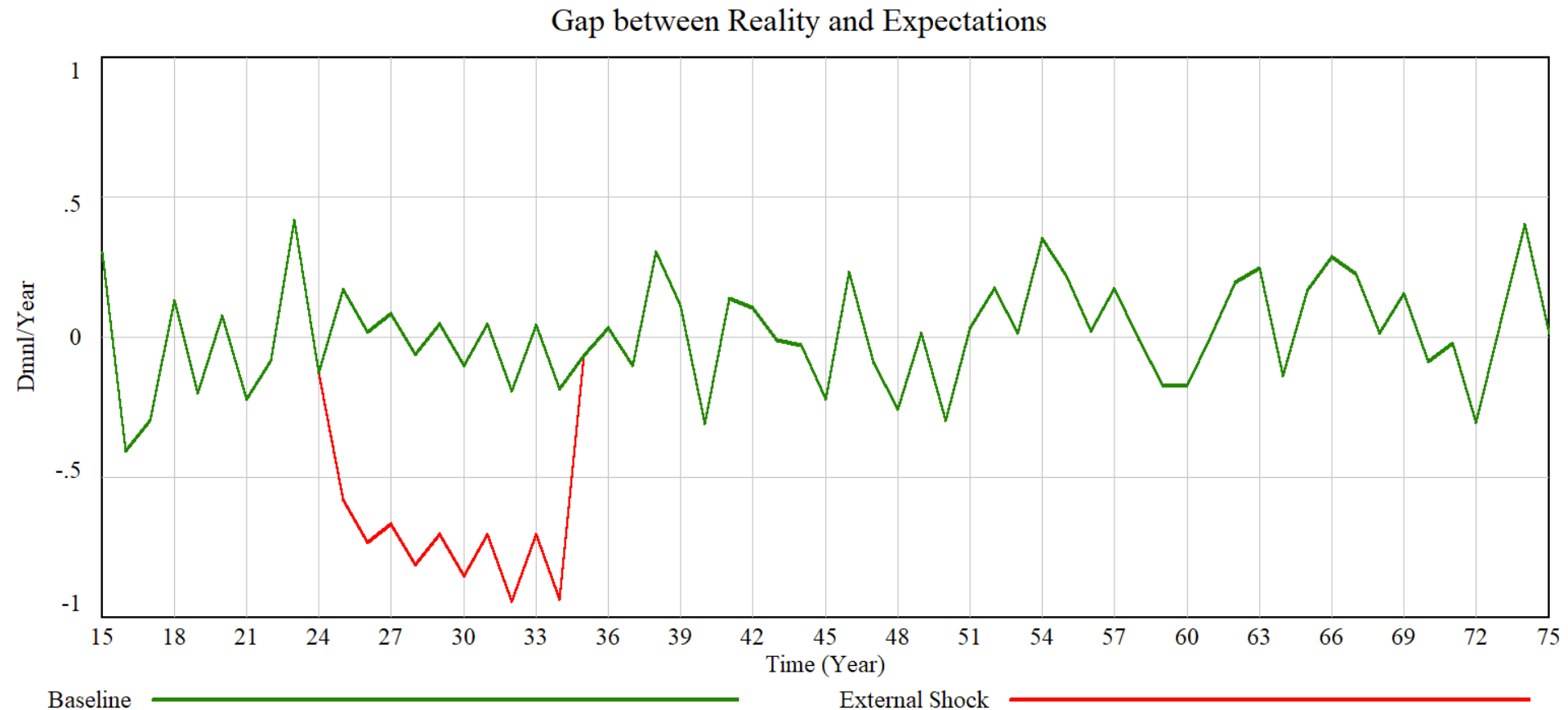
An extended episode of difficult times in the individual's life (e.g. illness).

(ii) External Shock Scenario (cont'd)

Stock of Aversion Sankharas - External Shock Scenario

Non-meditator: Baseline Scenario —1—1—1—1—1—1—
Non-meditator: External Shock —2—2—2—2—2—2—
Meditator: External Shock —3—3—3—3—3—3—

(iii) Awareness without Equanimity

- "Awareness and equanimity are like the two wings of a bird." – S.N. Goenka

Sankharas of Aversion
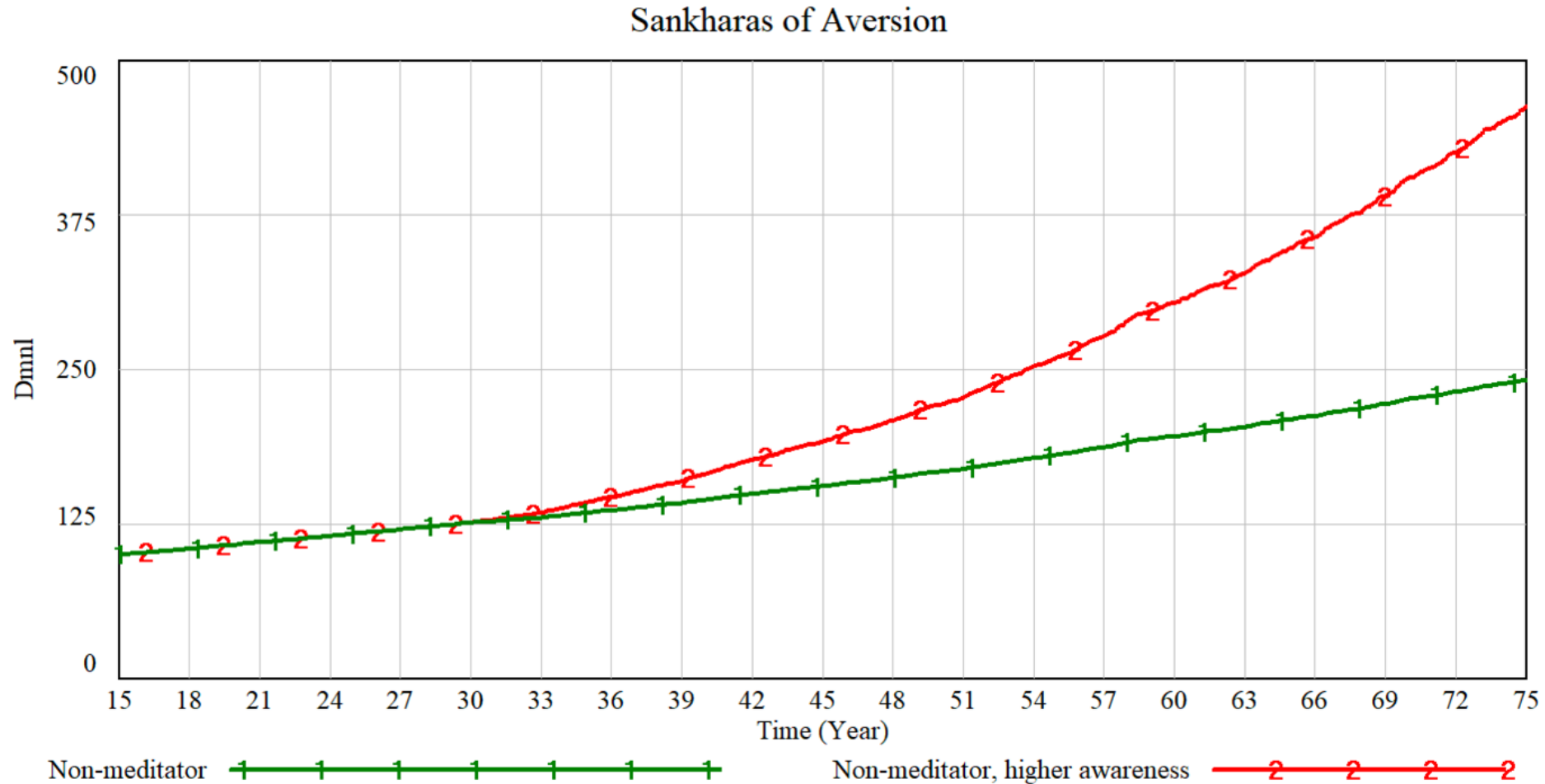
- the reinforcing loop of *R1: Multiplication of Miseries* becomes more dominant due to the person being extra sensitive to sensations but lacking the ability to remain equanimous towards them. 16

Conclusion

- Significant and growing evidence shows that **mindfulness meditation** techniques (inc. Vipassana meditation) lead to **structural changes in the brain**, as well as **psychological benefits**.

- However, there is a recognised gap in our understanding *how* exactly it works.

- This simple system dynamics model could serve as a useful <u>framework</u> for further investigation of how Vipassana meditation affects mental well-being.

- Given the <u>feedback-centred</u> and <u>endogenous</u> view of the Buddhist meditation tradition and its demonstrated <u>effectiveness</u>, it deserves attention from the SD community.

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Limitations

- The way in which *awareness* and *equanimity* are modelled is overly simplistic. These two traits are assumed to improve linearly and concurrently as a result of meditation.

- Formalising the concept of *saṅkhāra. A*nd testing the direct link from liberation from such *saṅkhāras* to an individual's level of well-being, as posited in Buddhism.

Thank you for your attention!

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