

An abridged introduction to Heart Coherence in Community for older adults' wellbeing

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The confluence of population ageing and urbanisation came under the scrutiny of researchers and policymakers more than a decade ago. The world became more urban and aged in 2008 and 2018 respectively when the total number urban dwellers exceeded rural dwellers, and the total number of adults aged 65 and over exceeded those aged 4 or younger for the first time in history (United Nations, 2008; 2019). While these phenomena are global, they are most starkly epitomised in large swathes of high-density neighbourhoods in East-Southeast Asia today. The confluence of rapid population ageing and rapid urbanisation in East-Southeast Asia and other areas in the 21st century is set to create unique urban conditions that may threaten the wellbeing of older adults, shifting sites of geropsychology actions to urban neighbourhoods. Whereas the Age-Friendly Cities and Communities (AFCC) checklists (World Health Organisation, 2007) provided general recommendations in relation to hardware and 'orgware' (Cho & Trivic, 2013; Cho, Heng, & Trivic, 2016) such as public spaces, transportation, housing, and community-based services, more attention could be given to 'software' or the attributes and activities of the older adults themselves to support their wellbeing, especially in dense urban contexts of East-Southeast Asia.

Research suggests that the unique characteristics of city living may affect citizens' health. For example, long-term congestion, crowds and noise annoyance (Ragetti et al., 2015) may trigger or worsen city-dwellers' susceptibility to social stress, depression (Peen et al., 2010) and psychosis (e.g., Krabbendam & Van Os, 2005). Taking a positive, preventive approach, we conceptualise a community-based psychosocial intervention that may improve the health status of city-dwellers, with a focus on older adults who may have limited their activity spaces to the neighbourhood (Cagney, Browning, Jackson, & Soller, 2013; Matthews & Yang, 2013). In line with the transdisciplinary neighbourhood health framework (Gan, 2017), researchers at the HeartMath Institute showed that psychosocial factors may influence attitudes, behaviours and health via physiological responses (McCraty & Tomasino, 2006). Given that neural connections from the emotional system to the cognitive system are both more plentiful and stronger than the connections in the opposite direction (McCraty & Tomasino, 2006), intervening at 'the level of the emotional system' by influencing the emotional centre of the brain, instead of its cognitive centre, may alter maladaptive patterns associated with negative responses to stress (McCraty, Atkinson, Tomasino, & Bradley, 2009; McCraty & Zayas, 2014).

Just as emotional unease that contributes to increased stress may be triggered by external events but may also exist in response to emotional processing in the absence of said external stimuli, activating positive emotions may sustain heart coherence by disrupting underlying stress-to-health patterns. In essence, heart coherence techniques involve (1) becoming attentive to changes to the physical area slightly below the heart while regulating one's breathing (and heart rate), and sustaining heart coherence (i.e., regulated physiological rhythms and emotions) by (2) recalling and re-experiencing an episode which best encapsulate a positive emotion, e.g., gratitude. These should result in smooth, deep and appropriately consistent sine-wave patterns of heart rate variability. In contrast, emotional stress often result in incoherent heart rhythm patterns, indicating less synchronised active sympathetic (fight or flight) and parasympathetic (rest and digest) branches of one's autonomic nervous system. Psychophysiological coherence contributes to functional

adaptiveness in higher brain systems. Intentionally regulating heart rhythms for psychophysiological coherence enhances health by thwarting the effects of emotional stress.

Since emotions are more easily compounded in community settings, heart coherence trainings may be and have been conducted in groups (e.g., Sarabia-Cobo, 2013) per community psychology practices. We hypothesise that shared experiences that involve carefully calibrated emotional arousal may better reinforce positive psychological states, as controlling these emotions through thought alone may be difficult or unnatural for some older adults. A brief heart coherence training with biofeedback equipment that visualises real-time heart rate variability, e.g., emWave2, may be complemented with a series of themed workshops to help residents (1) become acquainted with one another, (2) evaluate their need for heart coherence training, (3) learn heart coherence techniques, and (4) apply heart coherence techniques in stressful situations. For example, community art practitioners may be roped in to co-organise (1) a block party where residents help paint a communal acrylic artwork on canvas or a mural at a communal area, (2) a chat with residents on waste and beauty over a workshop on composting and potted plants, (3) a brief heart coherence training, and (4) a forum theatre experience to allow residents to practice altering the ending, e.g., of a domestic dispute.

These sessions should help residents access and regain heart coherence after episodes of negative emotions, such as restlessness, anxiety and anger. Attention should be given to how participants interact, the psychosocial atmosphere (Gan, 2019), and their emotions. As appropriate, practitioners should note and verbalise arising or accompanying emotions to sensitise participants to their collective experiences, both to reinforce learning and facilitate bonding between participating residents. We hypothesise that the effects of heart coherence training on health will be compounded when trainings are conducted in neighbourhood groups as opposed to individually due to enhanced interactions during and between training sessions. The Heart Coherence in Community programme outlined above (re)sets the tone for how residents interact with each other at the communal area, and the (positive) emotions associated with it. This psychosocial programme may take place at an existing communal node, e.g., at communal living rooms beneath Singapore's public housing apartments, or may be carried out after such a space is set up, i.e., in conjunction with socioecological or urban design interventions (e.g., Cho & Križnik, 2017).

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