The Path to Contentless Experience in Meditation: An Evidence Synthesis Based on Expert Texts

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Abstract

In contentless experience (sometimes termed *pure consciousness*) there is an absence of mental content such as thoughts, perceptions, and mental images. The path to contentless experience in meditation can be taken to comprise the meditation technique, and the experiences (“interim-states”) on the way to the contentless “goal-state/s”. Shamatha, Transcendental, and Stillness Meditation are each said to access contentless experience, but the path to that experience in each practice is not yet well understood from a scientific perspective. We have employed evidence synthesis to select and review 135 expert texts from those traditions. In this paper we describe the techniques and interim-states based on the expert texts and compare them across the practices on key dimensions. Superficially, Shamatha and Transcendental Meditation appear very different to Stillness Meditation in that they require bringing awareness to a meditation object. The more detailed and systematic approach taken in this paper indicates that posturally Shamatha is closer to Stillness Meditation, and that on several other dimensions Shamatha is quite different to both other practices. In particular, Shamatha involves greater measures to cultivate attentional stability and vividness on an object, greater focusing, less tolerance of mind-wandering, more monitoring, and more deliberate doing/control. Achieving contentless experience in Shamatha is much slower, more difficult, and less frequent. The findings have important implications for consciousness, neuroscientific, and clinical research and practice.

Keywords: pure consciousness, consciousness as such, minimal phenomenal experience, shamatha, transcendental meditation, stillness meditation

The Path to Contentless Experience in Meditation: An Evidence Synthesis Based on Expert Texts

Meditation has played an important role in Asia for thousands of years, but in western countries it is now also the subject of enormous public interest (Goleman and Davidson 2017). Up until the early 1990s, Transcendental Meditation (“TM”) had received the most research attention (Shear 1990b; Lutz et al. 2007), but in the last 20 years the main focus has been on a group of practices known as mindfulness meditation (Lutz et al. 2007; Tang et al. 2015). TM is said to aim for an experience that is “contentless”, in that mental content such as thoughts, sense-perceptions, body-perceptions, and mental images is absent (Shear 2006c; Pearson 2013). Contentless experience has also been referred to as *pure consciousness*, *consciousness as such*, and *minimal phenomenal experience*, and it is an important subject for cognitive science and philosophy (Millière et al. 2018; Josipovic and Miskovic 2020; Metzinger 2020; Millière 2020; Costines et al. 2021; Gamma and Metzinger 2021). One of the major forms of mindfulness practice known as *shamatha* is also said to aim for contentless experience (Gimello 1978; Jones 1993; Wallace 2007b; Markovic and Thompson 2016). The Tibetan Buddhist shamatha practice presented by meditation expert and scholar Alan Wallace (“Shamatha”) has been researched at length in the past 10 years (e.g., Jacobs et al. 2011; Rosenberg et al. 2015; Zanesco et al. 2019).

There are differences between the TM and Shamatha techniques, but there is also an obvious similarity, in that each involves bringing awareness to a meditation object. A third practice said to access contentless experience is Stillness Meditation (Meares 1967/1968; McKinnon 1983/2016). That practice does not involve a meditation object, and therefore provides a striking illustration of the diversity in techniques that are said to lead to contentless experience. Stillness Meditation was designed for clinical purposes in the 1960s, but has gone almost unnoticed in meditation research.

Shamatha, TM and Stillness Meditation are the focus of this paper. The paper draws a distinction between “goal-state/s” and “interim-states”. The goal-state/s in the three practices are contentless experience, and the interim-state/s are any experience on the way to the goal-state/s. In Woods et al. (2021) we have described the goal-states. The current paper is concerned with the techniques and interim-states.

Researchers need high quality understandings of the techniques and interim-states because those elements are critical to the meditation practices. Metaphorically, the technique and interim-states are the path to the goal-state/s: contentless experience. In each practice, the meditator must apply the technique correctly, and move through the interim-states, in

order to access the goal-state/s. Even prior to reaching the goal-state/s, progress in the interim-states is said to lead to positive changes in the meditator's daily life (e.g., Wallace 2006a). In a practice like Shamatha, where the goal-state is very difficult to attain (see section 3.1.7), most meditators will spend all of their practice in the interim-states.

To learn about a meditation technique or experience, it is essential that researchers consider understandings of experts within the meditation tradition (Lindahl et al. 2014; Gyatso 2016). Traditional understandings of experts, in written form, are a major source of information about meditation practices. Where researchers have regard to these expert accounts, they typically concentrate on a small subset of the total publications (e.g., Lindahl et al. 2014; Lutz et al. 2015; Wahbeh et al. 2018). There are often thousands of traditional publications for a particular practice, and it is not practicable to review them all. To the best of our knowledge, there has not been any research that has identified the features of the techniques and interim-states in Shamatha, TM or Stillness Meditation using expert texts selected and reviewed by way of a formal, structured, and transparent process.

A second gap in the research is that there has not been any detailed comparison of the techniques or interim-states across the three practices. A comparison of this kind would allow each practice to be understood relative to the other approaches. That would provide a much richer understanding than considering each practice in isolation.

This paper addresses these two gaps in research. In sections 3.1 to 3.3, we describe the main features of the Shamatha, TM and Stillness Meditation techniques and interim-states, based on expert texts selected and reviewed using an *evidence synthesis* process. Evidence synthesis is a rigorous and transparent method, and in the present context is aimed at achieving a precise and reliable understanding of how the techniques and interim-states are described in the relevant traditions. In section 3.4, we compare the techniques and interim-states across the practices on a number of key dimensions.

2. Method

2.1 Evidence synthesis

The present paper, in conjunction with Woods et al. (2020), forms an evidence synthesis that accords with the ENTREQ reporting guidelines for qualitative evidence syntheses (Tong et al. 2012). The Online Resource for this paper details the section/s that satisfy each of the 21 items on the ENTREQ checklist. The five steps in the evidence synthesis process are outlined in Figures 1 and 2 (for a detailed description of the process, see Woods et al. 2020, pp.3-9).

The Shamatha, TM and Stillness Meditation “extraction tables” described in step 3 are in total 194 pages and are supplementary material in Woods et al. (2020). In this paper we will refer to them using the shorthand SH, TM or SM together with the appropriate section number.

Fig. 1 Representation of steps 1 to 3 in the evidence synthesis process. The first step was to select for each practice samples of publications by expert/s with outstanding qualifications. Alan Wallace was selected as the expert for Shamatha; Craig Pearson, Norman Rosenthal, Bob Roth, Jonathan Shear, and Fred Travis as the experts for TM; and Ainslie Meares and Pauline McKinnon as the experts for Stillness Meditation. Samples of their publications were selected that revealed their understandings of the meditation techniques and experiences. For Pearson, Rosenthal, and Roth, the sample comprised recent major works that appear to present their understandings in a consolidated form. For the other five experts it comprised publications selected by applying eligibility criteria to their full output. For the eight experts combined, 135 publications were selected (panel a). The second step was to review the selected publications and extract (i.e., copy) information about the techniques and experiences. As an example, panel (b) is an excerpt from one of the Shamatha texts (Wallace 2006a, p.13). The highlighted statement, “The faculty of *mindfulness* is crucial in shamatha practice”, describes a feature of the Shamatha technique (“Mindfulness”) and was therefore extracted. The third step was to place each extracted passage in an extraction table for the relevant practice and code it as indicating the relevant feature. To illustrate this, panel (c) is a simplified excerpt from the Shamatha extraction table. This excerpt relates to the “Mindfulness” feature of the Shamatha technique (see green highlighting). The extracted statement highlighted in yellow is coded “Mindfulness” by placing it in this section of the Shamatha table. As can be seen, this section of the table also includes the other extracted passages that have been coded “Mindfulness”.

Fig. 2 Representation of steps 4 and 5 in the evidence synthesis process. The fourth step was to describe the features of the techniques and interim-states fundamental in achieving the goal-states in each tradition, based on the relevant passages in the extraction table for that practice. The descriptions are provided in sections 3.1, 3.2 and 3.3 of this paper for Shamatha, TM and Stillness Meditation respectively. As the focus is on features fundamental in achieving the goal-states, the descriptions do not cover, for example, very fine details of the techniques, such as breath counting exercises that may be used as a temporary learning support at early stages of Shamatha (Wallace 2006a, pp.31–33). The fifth step was to compare the techniques and interim-states across the practices on select dimensions that stood out from the descriptions. The comparison is provided in section 3.4. It is based on the understandings from the expert texts in sections 3.1 to 3.3, but rather than simply taking the expert texts at face value, it also incorporates critical analysis where appropriate. The descriptions in sections 3.1 to 3.3 and the comparison in section 3.4 represent the results of the evidence synthesis. The passages in the extraction tables constitute the data.

2.2 Sources outside the extraction tables

The descriptions of the techniques and interim-states in sections 3.1 to 3.3 are based on the expert passages in the extraction tables. To provide useful context, one footnote refers to passages from the Wallace texts that were not extracted. We have marked the relevant citations in that footnote with asterisks so that those passages can be easily distinguished.

2.3 Order in which the features are described for each practice

For each practice, the order in which the features of the techniques and interim-states are described in sections 3.1 to 3.3 is as follows. In the initial two or three subsections we describe the features of the technique, and related features of the interim-states, that appear to capture the essence of the practice. These are the features that most clearly distinguish the practice from other forms of meditation. We then provide further details on the interim-states, and describe the posture, recommended practice duration, and the ease, speed and frequency with which the goal-state/s are achieved. The only exception to this ordering is that we deal with posture towards the top of the Stillness Meditation section, on the basis that capturing the essence of that practice requires discussion of the posture.

3. Results

3.1 Shamatha

3.1.1 Three types of Shamatha practice

Wallace focuses on three types of Shamatha practice which he refers to as *mindfulness of breathing*, *settling the mind in its natural state* (“settling the mind”), and *awareness of awareness* (SH1.2; Wallace 2006a). Commonly meditators experience the awareness of awareness practice as the most subtle and challenging, and mindfulness of breathing as the most straightforward (Wallace 2005, pp.38–39, 2006a, p.7). The main objective of the three practices is to develop exceptional stability and vividness of attention (Wallace 1999a, p.177, 2006a, p.159).¹

3.1.2 Critical elements common to the three Shamatha practices

Stability, vividness, and relaxation. Stability, vividness, and relaxation are developed in “synergistic balance” (Wallace 2012, p.16), meaning that each increases in a gradual manner that supports the emergence of the others (SH1.5.1; Wallace 2011b, p.139). Stability refers to the degree to which attention is sustained on the relevant meditation object or experience (SH1.5.3; Wallace 2012/2014, p.187), and vividness concerns the clarity of attention (SH1.5.4; Wallace and Hodel 2008, p.207). Wallace (1999a, p.177) explains that, “[S]tability may be likened to mounting one’s telescope on a firm platform; while ... vividness is like ... polishing the lenses and bringing [it] into clear focus”.

Vividness has two aspects: *temporal* and *qualitative* (Wallace 2011a, p.156, b, p.139, 2012/2014, pp.131,188). If the meditator has a high degree of temporal vividness, they can detect very brief movements or changes in the meditation object, and if they have a high degree of qualitative vividness, they can ascertain very fine or subtle details.

According to Wallace (2006a, p.49, 2011a, p.250), in normal life, focusing tends to be associated with a level of tension that leads to fatigue (SH1.5.2). In the Shamatha practices, fatigue is avoided, since the increasing focus, and any effort that it requires, is accompanied by deepening relaxation (Wallace 2006a, pp.15,49, 2011a, p.250).

Mindfulness and introspection. The meditator develops attentional stability and vividness by cultivating *mindfulness* (Sanskrit: *smṛti*) and *introspection* (Sanskrit: *samprajanya*) (SH1.4.1; Wallace 1999a, p.178, 2010, p.47). Wallace defines mindfulness as

¹ Exceptional stability and vividness are considered necessary for the effective practise of insight (Sanskrit: *vipashyana*) meditation (Wallace 2006a*, 2011b*). Insight meditation is undertaken separately to Shamatha practice, and is regarded as critical for achieving enlightenment (also termed buddha nature or pristine awareness) (Wallace 2005, p.166*, 2011b, p.63*, 2012, p.161).

“attending continuously to a familiar object” (SH1.4.2; Wallace 2006a, p.13) such that attention does not stray (p.59). Introspection is the monitoring of the mind and/or body (SH1.4.3; Wallace 2006a, p.65). It is principally concerned with assessing the quality of attention (Wallace 2006a, p.44, 2010, p.47), but it also extends to checking the posture, and ensuring that all other aspects of the practice are being performed correctly (Wallace 2010, pp.47–48, 2011a, p.58). In the Shamatha practices it must occur intermittently, rather than on a continuous basis (Wallace 2010, p.48). It is required more frequently in the earlier stages (Wallace 2010, p.48), and at advanced stages it is counterproductive and therefore given up (Wallace 2001/2003, p.133, 2010, p.49, 2011a, p.273).

Dealing with excitation and laxity. Excitation and laxity are attentional imbalances that lead to a loss of mindfulness (Wallace 2009/2014, p.63). When excitation occurs the mind is said to be agitated or hyperactive, and therefore too easily attracted by other objects (SH1.7.2; Wallace 1999a, p.176, 2011b, p.184). In the case of laxity, attention loses its vividness, and this can cause it to decouple from the meditation object almost entirely (SH1.7.3; Wallace 2006a, p.175, 2018, p.217). Laxity is also described as dullness (Wallace 2012, p.161). Attention is unfocused or hazy, and the meditator can be spaced out, lethargic, daydreaming, and/or approaching drowsiness (Wallace 2006a, p.77, 2010, pp.39,42, 2012, pp.13,161, 2009/2014, p.63).

The meditator detects excitation and laxity using introspection (Wallace 2009/2014, p.63). If either is detected, they apply a remedy (SH1.7.4; Wallace 2006a, p.44). The primary way to counteract excitation is to relax (Wallace 2006a, p.44). Attention has strayed from the meditation object, but rather than forcing it back, the meditator simply “release[s] the effort of clinging to the [distraction]” (Wallace 2006a, p.32), allowing attention to return (Wallace 2006a, pp.18,32, 2010, pp.34–35, 2009/2014, p.73). The main way to counteract laxity is to arouse attention, by taking a fresh interest in the meditation object (Wallace 2006a, pp.44,78, 2009/2014, p.64). Doing this requires a small degree of tension and effort (Wallace 2006a, p.88, 2010, pp.39,62, 2009/2014, p.64).

The aim with the remedies is to achieve the right “pitch” of attention, meaning the optimal balance between relaxation on the one hand, and arousal, tension and effort on the other (Wallace and Wilhelm 1993, p.113; Wallace 2006a, pp.78,88–89, 2007b, p.60). Being too relaxed tends to produce laxity, but being too aroused readily leads to excitation.

3.1.3 Key elements specific to each Shamatha practice.

Mindfulness of breathing. In the mindfulness of breathing practice (SH1.12), the meditation object is the sensations associated with breathing (Wallace 2006a, pp.6–7). The

meditator takes no interest in other objects, such as other sense-perceptions or body-perceptions, or any thoughts, images or feelings.² If attention strays to those objects, the meditator simply releases them, and returns attention to the breath (Wallace 2011a, p.180, 2009/2014, p.40). The breath is allowed to flow freely, with no effort being made to control it (Wallace 2006a, pp.17–20, 2011a, p.180, 2012, pp.9–11).

Settling the mind in its natural state. In the settling the mind practice (SH1.13), the meditation object is the “*space of the mind* and whatever events arise within [it]” (Wallace 2006a, p.83). The space of the mind is the domain of mental events such as thoughts, images and feelings (Wallace 2011b, pp.x,116). It does not include sense-perceptions or body-perceptions (Wallace 2011a, p.190, b, p.132).

In this practice, mental events are attended to – or watched – as they arise and then pass (Wallace 1999a, p.184). The critical instruction is that there should not be distraction or grasping (Wallace 2006a, p.83, 2011a, p.159, b, p.132). Any distraction or grasping should therefore be identified using introspection, and then simply released (Wallace 2011a, p.158, 2009/2014, p.50). One aspect of the instruction to avoid distraction and grasping is that the meditator should take no interest in sense-perceptions or body-perceptions, and if attention strays to them it should be returned to the mental events (Wallace 2006a, p.83, 2011a, p.190), or, if no mental events can be detected, to the empty space of the mind (Wallace 2006a, p.92). Another element is that the mental events should be allowed to arise and pass freely, without any attempt to control them (Wallace 2006a, p.83, 2011b, p.116).

A third aspect is that the meditator should attend to the mental events *as mental events*, rather than being carried away by their contents (Wallace 2006a, p.83, 2012/2014, pp.185–186, 2009/2014, p.49, 2018, p.6). For example, if the meditator has the thought of a meeting with someone from earlier in the day, they should attend to that thought *as a thought*, rather than becoming wholly immersed in the circumstances of the meeting (Wallace 2009/2014, p.49). Becoming absorbed in the contents of the mental event would amount to mind-wandering, and mind-wandering is to be eliminated in Shamatha practice (Wallace 2011a, p.267, b, p.116, 2009/2014, p.49). In settling the mind meditation, attention moves from one mental event to another as each arises and passes. From the Shamatha perspective

² An important exception is the *acquired sign*: a mental image of the “air element” which appears to the meditator at some point in the practice (Wallace 2006a, p.64, 2010, p.63). If the meditator wishes to use the mindfulness of breathing practice to progress to the goal-state, then once the sign regularly appears, they treat it as the meditation object. We will focus on a sequence of the three Shamatha practices (see section 3.1.4), rather than on using the mindfulness of breathing practice all the way to the goal-state. For that reason we will assume that the meditator does not switch to the sign.

that does not constitute mind-wandering, provided that the meditator maintains attention on the mental events *as mental events*.

Awareness of awareness. In the awareness of awareness practice (SH1.14), the meditation object is awareness itself (Wallace 2006a, p.132). Awareness itself is an “extremely subtle” object (Wallace 2010, p.80), and from an experiential point of view it can seem as if there is no object at all (Wallace 2006a, p.132). The meditator takes no interest in sense-perceptions, body-perceptions or mental events (Wallace 2011a, pp.226, 249, 2012/2014, p.66). If attention strays to them, they are simply released (Wallace 2006a, pp.133–134, 2011a, p.226, 2009/2014, pp.72–73). Unlike the other two Shamatha practices, “attention is not directed *to* anything” (Wallace 2006a, p.132). By taking no interest in the other objects, and by otherwise dealing with excitement and laxity, attention is simply allowed to rest in awareness itself (Wallace 2005, p.35, 2006a, pp.132–134).

3.1.4 The 10 stages of attentional development

Wallace describes 10 stages of attentional development in Shamatha practice based on the text *Stages of Meditation* by the eighth century Buddhist contemplative Kamalashila (SH1.2, 1.11; Wallace 2006a, p.5). The meditator advances through the stages by counteracting forms of excitement and laxity that are initially coarse but become increasingly subtle (SH1.2, 1.7; Wallace 2006a, p.6).

Any one of the three practices can be used for all 10 stages, or the meditator can switch between the practices at different points (Wallace 2006a, p.7). Wallace recommends using mindfulness of breathing for stages 1 to 4, settling the mind for stages 5 to 7, and awareness of awareness for stages 8 onwards (Wallace 2006a, pp.6–7, 79–80). In this paper we focus on that recommended sequence, rather than the alternative approaches.

The meditator begins with the mindfulness of breathing practice. The main emphasis at stage 1 is relaxation, and from that a degree of attentional stability emerges (Wallace 2006a, p.33, 2011a, p.139). Stage 1 is achieved when the meditator can attend to the meditation object for 2 or 3 seconds (Wallace 2006a, pp.13, 22).

The second and third stages are focused on developing stability (Wallace 2006a, pp.29–31, 43–44, 2010, pp.60–61). As that occurs, the experience becomes calmer and more pleasant (Wallace 2010, p.61). Upon reaching stage 4, the meditator is free of coarse excitement, meaning that attention always remains on the meditation object to some degree (Wallace 2006a, p.59). The emphasis at stage 4 is on increasing vividness by dealing with coarse laxity (Wallace 2010, p.62). Over stages 5 to 9, the remaining, more subtle forms of excitement and laxity are overcome (Wallace 2006a).

At stage 5, the meditator switches to the settling the mind practice. As they learn to release distractions and grasping, they develop a clear sense of *stillness and movement* (Wallace 2006a, p.92, 2012/2014, p.186). Mental events arise and pass, creating the sense of movement, but the watching awareness is no longer pulled about by them due to grasping, and it therefore remains still (Wallace 2005, p.27, 2011b, p.149, 2009/2014, pp.49–50). The mental events gradually become calmer and begin to peter out (Wallace 2011b, pp.118–119). By stage 6, thoughts are infrequent and the senses are largely withdrawn (Wallace and Hodel 2008, p.211; Wallace 2010, p.64).

At stage 8, the meditator moves to the awareness of awareness practice. Upon achieving that stage, attention is highly focused, and free from excitation and laxity for long periods (Wallace 2006a, p.131). Since in approaching stage 10 there is no need for introspection or counteracting excitation and laxity, virtually no effort or doing is required (Wallace 1998/2005, p.187, 2006a, pp.131,137, 2010, p.66).

At the 10th and final stage, the meditator releases the meditation object (SH2.14.24). Body and mind undergo a radical transition, becoming exceptionally fit or pliant, and an intense bliss is experienced, which then subsides (Wallace 2006a, pp.155–156). The meditator has then achieved the goal-state.

3.1.5 Posture

The posture for the Shamatha practices should be comfortable and permit a sense of ease (SH1.21; Wallace 2005, p.13, 2011a, p.29, 2009/2014, p.47). Two main types are recommended: sitting (cross-legged or on a chair), and lying in the supine position (Wallace 2011a, p.32). Sitting counteracts laxity, eliciting vividness, while lying counteracts excitation, encouraging relaxation (Wallace 2011a, p.245).

When sitting, the meditator is upright, with their back straight but not rigid, and the sternum slightly lifted (Wallace 2005, pp.13–14, 2009/2014, p.47). Slouching is avoided (Wallace 2005, p.14). All postures should “reflect a sense of vigilance”, as opposed to “just collapsing into drowsiness” (Wallace 2005, p.13; see further section 3.4.6 below). For mindfulness of breathing, eyes may be open or closed, but for the other two practices they should be at least partially open (Wallace 2011a, p.248).

3.1.6 Practice duration

When the meditator first starts to practice, their meditation sessions should be 24 minutes (SH1.22; Wallace 2006a, p.9, 2011a, p.33). As they progress, they can increase the duration, subject to the need to maintain quality of practice (Wallace 2006a, p.64, 2009/2014, p.73). If they are practising as part of an active life, rather than having withdrawn into a

retreat context, in most cases more than two hours per day of practice will be needed to pass stage 3 (Wallace 2006a, p.8).

3.1.7 Ease, speed and frequency with which the goal-state is achieved

Wallace describes Shamatha practice as “extremely demanding” (Wallace 2007b, p.43; see, similarly, Wallace 1998/2005, p.220, 2012/2014, p.185). One reason for this is that it requires effort, and that effort must be applied in a skilful manner (SH1.10). The meditator cultivates relaxation from the beginning of the practice, but effort is also required up until advanced stages. A second reason Shamatha is demanding is that progressing to the goal-state requires 6 to 12 hours of practice per day (Wallace 2012/2014, p.156) over a period of months or years (Wallace 2006a, p.143). A third reason is that the practice will be effective in leading the meditator to the goal-state only if a number of supporting conditions are satisfied (SH1.23). These conditions are generally taken to include that the meditator practises in a retreat environment, with little or no socializing or entertainment between meditation sessions. The full set of conditions, which includes various mental prerequisites, is itself highly demanding (Wallace 2011b, pp.ix–x, 2012/2014, pp.154–156, 185, 2018, p.194). Progressing past stage 4 of the 10 stages of attentional development necessitates a “vocational commitment” to the practice (Wallace 2006a, p.8), which typically includes full-time hours, and withdrawal from active life (pp.8,45,49–50).

It is suggested by Wallace that approximately 5,000 to 10,000 hours of practice may be required to achieve the goal-state (Wallace 2006a, p.162; Wallace and Hodel 2008, pp.207–208). However, this guideline assumes that at least the major supporting conditions are satisfied (SH1.23; Wallace 2006a, p.162, 2007b, pp.42–43, 2010, pp.81–82, 2012/2014, p.156), and in the modern world that is rarely the case (Wallace 2011b, p.x, 2012/2014, pp.154–156). Wallace explains that, consequently, achieving the goal-state is “exceptionally rare” (Wallace 1998/2005, p.219, 2006a, p.147), even among practitioners in or exiled from Tibet (Wallace 2001/2003, p.97, 1998/2005, p.219, 2010, p.82, 2012/2014, p.148). He indicates that it is not yet known whether non-Tibetan meditators living in western countries can achieve the goal-state or how long that would take (Wallace 2006a, pp.162–163, 2009/2014, pp.114–115). Wallace considers that one reason the Shamatha goal-state is not achieved more frequently is that meditators are often attracted to less onerous or more advanced practices, and therefore fail to give Shamatha the commitment it requires (SH1.23). His belief is that, if meditators were to make that commitment, and the supporting conditions could be satisfied, achieving the goal-state/s would be “very feasible” (Wallace 2010, p.83), and might therefore no longer be rare (pp.66,83).

3.2 Transcendental Meditation

3.2.1 Use of mantra

In TM, the meditator repeats a mantra silently in their mind (TM1.4.1; Shear 2006b, p.xvi; Roth 2018, p.2), and that involves bringing attention to the mantra (Shear 2004, p.86, 2006b, p.xvi, 2011a, p.156). The mantras are words or sounds that have no meaning for the meditator (Rosenthal 2011/2012, pp.16,279; Roth 2018, p.2). A specific mantra is selected for the meditator by their TM teacher (TM1.5.3; Rosenthal 2011/2012, p.16; Roth 2018, p.57). To be effective, the mantra must be repeated in the proper way (Shear 1990b, p.101; Shear and Jevning 1999a). That means the repetition must be effortless, and involve no concentration or control (TM1.6; Shear 1990b, p.101; Rosenthal 2011/2012, p.16; Faber et al. 2017; Roth 2018, pp.35,57). The TM experts tend to use the term concentration interchangeably with the term focus (e.g., Travis and Shear 2010a; Rosenthal 2016/2017, p.160).

3.2.2 Absence of effort, concentration and control

The absence of effort, concentration and control is said to be a feature of both the repetition of the mantra, and TM as a whole (TM1.6; Travis and Shear 2010a; Rosenthal 2011/2012, p.18; Pearson 2013, p.29; Roth 2018, p.29). From the expert texts we have identified four main aspects of this understanding.

The first aspect is that the repetition of the mantra should not be performed in a manner that is strained or forced (Rosenthal 2016/2017, p.26; Roth 2018, p.61). Using force to exclude mental content such as thoughts, perceptions or images is not part of the practice (Pearson 2013, p.394; Travis and Parim 2017; Roth 2018, p.2). The second aspect is that the meditator should not be concerned with any ongoing mental content of this kind (Shear and Jevning 1999a; Travis and Parim 2017). Such content may be present alongside the mantra, or the meditator may lose awareness of the mantra and experience that content alone. The third aspect is that the meditator is not instructed to monitor their attention. However, if they happen to notice that they have lost awareness of the mantra and are experiencing the other content, they should gently return to the mantra (Travis and Shear 2010a, p.1116; Rosenthal 2011/2012, p.219; Faber et al. 2017).

The fourth aspect is given particular emphasis by all five experts: Repeating the mantra initiates an automatic movement of the mind towards the goal-state (TM1.6; Shear and Jevning 1999a; Travis and Shear 2010a; Pearson 2013, pp.395–396; Roth 2018, pp.32–35). Movement in that direction, and the achievement of the goal-state, are referred to as *transcending* (TM2.1; Faber et al. 2017, p.307). The TM experts rely on a diving analogy:

Repeating the mantra is like leaning over the edge of a pool – the movement downwards then just happens automatically (Rosenthal 2011/2012, p.278; Pearson 2013, p.396). Once transcending has commenced, it will be halted or impeded by applying any effort or control (Shear 2006c, 2011b; Travis 2011, 2014; Rosenthal 2016/2017, p.262). Since the process is automatic, the practitioner has a sense of “just letting the mantra happen” (Rosenthal 2011/2012, p.218, quoting a meditator).

3.2.3 Further details on the interim-states

In the course of transcending, thoughts and other mental content settle down (TM1.8.1; Shear 1996b, 1995/1997b; Pearson 2013, pp.45,52,395; Roth 2018, p.17). Thoughts gradually become less prominent in awareness and reduce in frequency, disturbing the meditator less and less (Travis et al. 2005; Pearson 2013, pp.47,52,395; Rosenthal 2016/2017, p.26). The mantra also becomes less prominent (Travis and Shear 2010a; Rosenthal 2011/2012, p.288), and there is a growing sense of relaxation and calm (Roth 2018, p.152).

A TM session is said to involve repeated cycling as follows:

- The meditator repeats the mantra and transcends fully or to some extent;
- They cease transcending, and then notice that they have lost awareness of the mantra; and
- They return to the mantra and the next cycle begins (Travis 2011; Rosenthal 2011/2012, pp.18–19, 2016/2017, pp.46,217; Faber et al. 2017; Travis and Parim 2017).

The second stage, where the meditator ceases transcending, will occur even if they are practising correctly, and there is nothing they can do within the meditation session to stop it occurring. It is therefore considered an integral part of the process (Faber et al. 2017; Travis and Parim 2017; Roth 2018, p.32).

If the meditator is transcending but has only done so to some extent, that means they have not reached the goal-state. They will still have awareness of the mantra, but if they lose that awareness prior to reaching the goal-state then they cease to transcend (TM2.7.28; Faber et al. 2017; Travis and Parim 2017). If the meditator has fully transcended, that means they have attained the goal-state. In the goal-state they have no awareness of the mantra, and no content such as thoughts, perceptions and images (TM2.7.14–2.7.21, 2.7.28; Travis and Shear 2010a). In this scenario, the meditator ceases to be fully transcended, meaning they exit the goal-state, when content such as thoughts, perceptions and images resumes. If at that point the meditator does not also have awareness of the mantra, they will have ceased transcending at all.

Shear refers to *pure individuality* and *pure bliss* as highly abstract stages that immediately precede the goal-state (TM1.8.2; Shear 2011a). However, he notes that meditators may simply move through them without noticing them, particularly if they are beginners (Shear 2011a). Those stages are not discussed by the other TM experts.

3.2.4 Posture

TM is conducted in a comfortable seated posture, typically using a chair (Pearson 2013, p.29; Rosenthal 2016/2017, p.22; Roth 2018, pp.2,58). Roth (2018, pp.2,58) advises that any seated position is acceptable. There is no instruction for the back to be straight, or that any other discipline in the posture – such as an absence of slouching – is required. TM is performed with eyes closed (Pearson 2013, p.29; Roth 2018, p.30).

3.2.5 Practice duration

The recommended TM practice is 15 to 20 minutes twice a day (Shear 2006c; Rosenthal 2011/2012, p.276; Pearson 2013, p.394).

3.2.6 Ease, speed and frequency with which the goal-state is achieved

In TM it is implied that it is usual, rather than rare, for meditators to access the goal-state, provided they maintain their practice (TM2.6). The practice is said to be easy and pleasant (TM1.2–1.3), and intensive hours are not required (see section 3.2.5). There are no demanding supporting conditions or prerequisites, and it is assumed that the meditator will be practising as part of an active life, rather than in a retreat environment (TM1.5.6). Meditators take different lengths of time to first access the goal-state. For some people it occurs in the first session or week, while for others it takes longer (Shear 2006c, p.25, 2011b, p.53; Pearson 2013, p.29; Rosenthal 2016/2017, p.36). The TM experts state or imply that for most meditators it happens within 3 months (TM1.5.2, 2.6; Shear and Jevning 1999a, p.197; Travis 2006, p.24; Rosenthal 2011/2012, pp.42–43).

3.3 Stillness Meditation

3.3.1 The pairing of control and relinquishment of control

Meares and McKinnon each present Stillness Meditation in a range of ways (SM1.6, 1.8, 1.10–1.12). Careful consideration of the various presentations indicates that the practice can be summarized as follows: The meditator adopts a posture of initial minor discomfort, and then gives up the effort of *doing* anything beyond maintaining that posture. This formulation captures the dynamic central to the practice: the pairing of control and the relinquishment of control (Meares 1978/1986, 1987a, p.47). The control is required to maintain the posture, and the relinquishment occurs in giving the mind free reign (Meares 1978/1986).

3.3.2 Control – maintenance of the posture

The practice is performed with eyes closed (Meares 1967/1968, p.90). The posture of the meditator must produce an *initial* minor discomfort (SM 1.10). At the beginning of the meditation session there is therefore a slight difficulty in maintaining it, and a small element of deliberate control is required (SM1.11–1.12; Meares 1978/1986, pp.34,37). As the session progresses, the meditator relaxes (see section 3.3.4). They lose awareness of – or transcend – the discomfort (SM1.10). The body comes to simply remain in the correct posture (SM1.11.4, 1.12). That entails a degree of postural control, but the deliberate element of that control is no longer necessary, and maintenance of the posture is then experienced as effortless.

McKinnon (2011, pp.67,102–103) considers that sitting in a straight-backed chair is sufficient to provide the initial slight discomfort (SM1.11). The meditator sits with their back, neck and head upright, but balanced, poised and at ease, rather than slouched or strained. Meares (1978/1986, p.36) viewed this posture as suitable for meditators at early stages of practice (SM1.11.4). However, he thought that the meditator should progress to more advanced postures as they became more experienced, in order to ensure that the posture continues to produce an initial slight discomfort (SM1.11). McKinnon (2011, pp.102–103, 1983/2016, pp.271–272) views the advanced postures as unnecessary (SM1.11.1). She considers that the basic posture is sufficient to provide the initial discomfort for meditators at any level of experience.

The Stillness Meditation accounts do not include any instruction for the meditator to monitor their mind or body. For beginners, there is the possibility that the body will move out of the correct position, either before or after the meditator has relinquished the deliberate postural control (see above). Meares (1978/1986, p.37) indicates that in this scenario the meditator should correct the posture, and that the problem will then soon cease. Neither Meares nor McKinnon advise as to whether the meditator may engage in monitoring to gauge whether the body has moved from the correct position. It is therefore not clear whether monitoring is permitted, or whether the meditator should only correct the posture if they happen to notice that the movement has occurred. If monitoring is permitted, it would need to be intermittent, rather than continuous. Continuous monitoring would be inconsistent with the emphasis on non-doing (see below).

3.3.3 Relinquishment of control – giving the mind free reign

The practice is said to involve the relinquishment of all control other than that required to maintain the posture (SM1.8–1.9, 1.12; Meares 1973b, p.254, 1984, p.18,

1976/1984, p.21, 1978/1986, 1989, pp.116–117; McKinnon 2002/2008, p.15, 2011, 1983/2016). Remaining in the correct posture, the meditator gives up the effort of *doing* anything: They do not need to *try*, or to otherwise execute any instruction or action. One aspect of this is that they do not need to maintain attention on a meditation object or repeat a mantra. In fact they give up the effort of maintaining *any* particular attention or awareness. The mind is given free reign, allowing it to wander where it will. On this basis, the practice is said to be effortless (SM1.8). As there is no need for *doing* beyond maintaining the posture, there is no need for control or effort associated with such doing. As noted above, the meditator soon finds that their body simply remains in the correct position. From that point there is no deliberate doing, or associated control or effort, with respect to the posture.³

McKinnon (2011, 1983/2016) states that the practice involves no “technique”, on the basis that there is no need for *doing*, as described above (SM1.8). If the meditator, properly seated, was to ask, “What should I *do* to practise correctly?”, an acceptable reply would be “You don’t need to *do* anything” (Meares 1978/1986, p.153; McKinnon 2011, p.78). While in this sense it seems true that there is an absence of technique, the practice can be characterized as involving technique when considered at a broader level. For example, the meditator is required to assume and maintain a particular posture, and to relinquish the effort of doing anything further. If they fail to adopt the posture, or to relinquish effort, they could be said to be practising incorrectly (SM1.11; Meares 1977a, p.133, 1978/1986, pp.46–47). From the broader perspective that would constitute a failure of technique.

3.3.4 Further details on the interim-states

When the meditator first sits down, they may be quite aware of their thoughts, things happening around them, and the slight discomfort of the posture (McKinnon 1991, pp.73,77, 2011, pp.76–77, 84). As they practise relinquishing the effort of *doing*, their body begins to relax and the physical relaxation gradually deepens (Meares 1978/1986, pp.9–10; McKinnon 1991, pp.76–77). The mind is allowed to wander freely, which leads to thoughts becoming less logical and more abstract, and with the physical relaxation the intensity and frequency of thoughts reduces (SM1.9, 1.14, 1.15.2; Meares 1978/1986, pp.24–25). The meditator also becomes less aware of the things happening around them, and loses their awareness of the

³ Meares prescribes for beginners two exercises preliminary to the meditation proper: a form of progressive muscle relaxation; and deliberately becoming aware of and feeling the relaxation of the body (SM1.6). These each involve a clear form of *doing*, which provides a stepping stone to the experience of non-doing. McKinnon’s approach is that aspects of the preliminaries may be useful for some people, but that they are not essential (SM1.6). For simplicity, and since McKinnon regards the preliminaries as optional, we will not treat them as part of the practice in this paper.

slight discomfort in the posture (SM1.10, 1.14). With awareness now disturbed less by thoughts, the surrounding environment, and the posture, the meditator experiences a growing sense of mental relaxation, calm and ease (SM1.6, 1.14; Meares 1978/1986, pp.24–27).

In the initial period of learning the practice, meditators may experience anxiety, or feelings such as boredom and discomfort, arising from their not yet being accustomed to the experience of non-doing (SM1.14, 1.15.3). McKinnon (1983/2016, p.191), for example, refers to the “anxiety that welled up within [her] at intervals” when she commenced the practice, and “the eerie absence of any kind of stimulus”. Once the meditator becomes accustomed to the non-doing, any negative feelings such as these will pass.

3.3.5 Practice duration

The usual recommendation is to practice 10 to 20 minutes twice a day (Meares 1967/1968, p.71, 1978/1986, pp.x,46; McKinnon 2011, pp.107,232, 1983/2016, p.269). A longer duration may be appropriate if the meditator is seeking to deal with particularly stressful circumstances or recover from certain mental conditions (McKinnon 1983/2016, pp.213,270).

3.3.6 Ease, speed and frequency with which the goal-states are achieved

The Stillness Meditation accounts imply that, if meditators keep up their practice, they can expect to gain access to the goal-states (SM2.2). Once the meditator achieves an initial familiarity with the practice, it is said to be easy and pleasant (SM1.3–1.4). There is no need for a retreat environment (McKinnon 1991, p.71) or intensive hours (see section 3.3.5), and there are no other demanding preconditions. Individuals vary in terms of how long it takes to first access the goal-states. Some achieve it in the first session or week (Meares 1973a, p.734, 1988, p.26; McKinnon 2011, pp.101–102), some within a few weeks or months (McKinnon 2011, pp.168,176), and for others it takes longer. McKinnon (1983/2016, p.217) notes that for some people it may take “quite a long time”, and that it may be 2 years before the experience is “deep and fulfilling”.

3.4 Comparison across the practices

In this section we provide a detailed comparison of the techniques and interim-states across the three practices on key dimensions.⁴ The dimensions are distinct from one another but there is a degree of overlap. The comparison is based on the understandings from the expert texts set out in sections 3.1 to 3.3, but rather than merely taking the expert texts at face

⁴ In this paper, the term dimension is used in a broad sense synonymous with the word aspect. The dimensions below are binary (Yes/No) or graded (e.g., None to Very high).

value, we also apply critical analysis where appropriate. In each of sections 3.4.1 to 3.4.7 we provide one or more tables summarizing our conclusions from that section.

3.4.1 Use of meditation object

Shamatha and TM involve meditation objects, whereas Stillness Meditation does not (sections 3.1.2, 3.1.3, 3.2.1, 3.3.3).

Table 1 Summary of Conclusions – Use of Meditation Object

Feature	Shamatha	TM	Stillness Meditation
Meditation object	Yes	Yes	No

3.4.2 Stability/vividness and focusing of attention

Within the interim-states, the Shamatha meditator aims for exceptionally stable and vivid attention on the meditation object (sections 3.1.1, 3.1.2).⁵ To achieve that, they must cultivate mindfulness and introspection, and detect and counteract various forms of excitation and laxity (section 3.1.2). That is done through careful and systematic steps carried out across the various stages of attentional development (section 3.1.4). Mindfulness is defined as continuously attending to – or focusing on – the object (section 3.1.2). With practice, the meditator develops an extremely high level of focus (section 3.1.4).

By deliberately repeating the mantra, the TM meditator brings their attention to it (section 3.2.1). The repetition is said to initiate the movement of the mind towards the goal-state (section 3.2.2). The TM experts present TM as involving no focus (section 3.2.2), but it seems that at least some degree of focus is involved in bringing attention to the mantra. The main reason the experts say that there is no focus is that, once the movement towards the goal-state has been initiated, it is said to be automatic (section 3.2.2). Since the movement is automatic, unless it ceases spontaneously no further deliberate bringing of attention to the mantra is required in order to progress to the goal-state (sections 3.2.2, 3.2.3).⁶

For the mind to move towards the goal-state, the mantra must remain in awareness (section 3.2.3). The TM experts do not see this as involving focus, whether deliberate or otherwise. Their understanding seems to be that, as the meditator moves automatically towards the goal-state, the mantra is within awareness, but the meditator is not focused on it (Travis and Parim 2017). They make clear that it is fine for other mental content such as thoughts, perceptions and images to be present at the same time (section 3.2.2).

⁵ The meditator releases the object as they enter the goal-state (section 3.1.4).

⁶ This assumes that the meditator is applying the technique correctly. The movement could also cease if the meditator fails to apply the correct technique, for example by forcing the mantra.

The experts tend not to suggest that TM leads to any kind of stability or vividness of attention on the mantra. The aim is simply to use the mantra to get to the goal-state, rather than cultivating those qualities. If stability was being cultivated, that might suggest that there was something the meditator could do within a meditation session to reduce the occasions that the mantra left their awareness. In TM it is indicated that there is nothing the meditator can do in this regard, meaning that the loss of awareness – which halts the automatic movement towards the goal-state – will occur, at times, even if the meditator is highly experienced (section 3.2.3). In Shamatha, vividness of attention on the meditation object increases as the meditator moves towards the goal-state. In TM, on the other hand, the mantra is said to grow progressively less prominent in awareness (section 3.2.3).

Although stability and vividness with respect to the mantra are not emphasized in TM, it may go too far to say that they are not present or cultivated at all. It seems that some small degree of stability and vividness may be involved in bringing attention to the mantra, and its remaining in awareness.

In Stillness Meditation, there is no meditation object, and the meditator makes no effort to direct or maintain attention (section 3.3.3). As such, there is no focusing, and no steps to cultivate stability or vividness with respect to an object.

Table 2 Summary of Conclusions – Stability/Vividness and Focusing of Attention

Feature	Shamatha	TM	Stillness Meditation
Measures/steps to cultivate stability and vividness of attention on an object	High	Very low/Low	None
Focusing/concentration	High	Very low/Low	None

3.4.3 Tolerance of Mind-wandering

In Shamatha, mind-wandering is taken to occur when attention strays from the meditation object in full or in part.⁷ For example, in the mindfulness of breathing practice, the object is the sensations associated with breathing (section 3.1.3). If the meditator starts thinking about what they will do after the meditation session, attention has strayed from the object. In the Shamatha tradition the mind is taken to have wandered.

The TM meditator can have thoughts alongside the mantra, or when they have lost awareness of the mantra prior to reaching the goal-state (section 3.2.2). The TM texts do not

⁷ In the discussions about mind-wandering in Shamatha in the remainder of this paper, we exclude the settling of the mind practice, other than in the footnote in this section that expressly refers to it. There is a slight complexity regarding that method (see the footnote), so it is simpler and clearer to focus on the other two Shamatha practices.

provide a clear picture as to whether these thoughts are regarded as mind-wandering within the TM tradition (cf. Rosenthal 2016/2017, pp.158–163; Roth 2018, p.32).

In Stillness Meditation, the mind is given free reign (section 3.3.3). The meditator relinquishes control except as required to maintain the posture. Thoughts are allowed to arise and change, and within the tradition this is treated as mind-wandering.

In the academic literature, there are different definitions of mind-wandering (Christoff et al. 2018; Mills et al. 2018; Seli et al. 2018a, 2018b). The Shamatha conception closely aligns with the definition of mind-wandering as task-unrelated thought – i.e., thoughts unrelated to an ongoing task (Smallwood and Schooler 2006). Taking the example above, the meditator’s thoughts of what they will do after the meditation session are unrelated to the task of attending to the meditation object. The Stillness Meditation conception aligns more closely with the definition of mind-wandering as spontaneous thought: thoughts that arise and change with relative freedom due to an absence of deliberate control or other strong constraints (Christoff et al. 2016, 2018; Irving 2016; Stan and Christoff 2018).

In this section we wish to compare the degree to which mind-wandering is tolerated in the three practices. If mind-wandering is defined as task-unrelated thought, the comparison would not be very informative. In the TM tradition, the thoughts alongside the mantra and where the mantra is lost (see above) are not regarded as off-task, because they are considered an integral part of the TM process (Faber et al. 2017). Based on this understanding, in TM there is no mind-wandering in the sense of task-unrelated thought.

In Stillness Meditation, the task could be defined broadly as relinquishing control other than that required to maintain the posture. In this case, any thoughts that arise when the meditator is practising correctly would not be off-task, because they are simply what happens, on the path to the goal-states, when the meditator relinquishes control. As in TM, there would be no mind-wandering in the form of task-unrelated thought.

Relinquishing control in Stillness Meditation is about non-doing – i.e., giving up doing. If task is defined narrowly as something that the meditator has to *do*, there is no task in Stillness Meditation (other than maintaining the posture). Here the definition of mind-wandering as task-unrelated thought it is not really applicable.

If we instead define mind-wandering as spontaneous thought, mind-wandering can be readily identified in all three practices, and the cross-practice comparison is more intuitive and informative. This is the approach that we will take in the remainder of this paper.

The thoughts that may arise in Shamatha when attention strays from the meditation object are not all spontaneous, and therefore not all mind-wandering in the sense of

spontaneous thought. The meditator may be, for example, thinking quite rigidly and methodically about what they will do after the meditation session, as opposed to their mind hopping freely and easily from thought to thought. Spontaneous thoughts are just one type of thought that may occur when attention strays from the object. In TM and Stillness Meditation it is similar: Spontaneous thoughts are just one type of thought that may occur. As an example, the Stillness Meditation practitioner may also find themselves thinking rigidly and methodically about what they will do after the session. They then simply give up the effort of *doing* anything: They give up any effort in thinking in this rigid and methodical manner, and they give up any effort to stop thinking this way. By relinquishing this effort, in time the mind begins to move more freely.

To what degree do the three practices tolerate mind-wandering in the sense of spontaneous thought? In Shamatha, the aim is to eliminate any straying from the meditation object, and thinking (whether spontaneous or otherwise) is a form of straying.⁸ At a very advanced stage, attention becomes so highly focused on the object that it does not stray at all. Up until that stage it is accepted that attention will stray to some degree. In the early stages, it will frequently leave the object entirely, whereas in the middle and later stages it will do so only in part (sections 3.1.2, 3.1.4). The straying of attention occurs due to excitation and laxity. The meditator detects them using introspection (monitoring), and then applies appropriate remedies, which allow attention to return to the object.

In TM there is a greater tolerance of spontaneous thought. The meditator is not concerned with thoughts, provided that they still have some awareness of the mantra (section 3.2.2). In contrast with Shamatha, the meditator is not advised to monitor their attention (section 3.2.2). However, if they happen to notice that they have lost awareness of the mantra entirely, they are instructed to gently return to it. It is accepted that this will occur numerous times in a meditation session (section 3.2.3).

Eifring (2018, pp.529,537), writing from outside the TM tradition, indicates that TM “accepts thoughts without reservations” (p.537). It is evident, however, from the understandings above, that spontaneous and other thoughts are only accepted to some degree. The limitations on spontaneous thoughts in TM can be better appreciated by comparison with Stillness Meditation. In that practice, there are no qualifications with respect to the

⁸ The Shamatha settling the mind practice (section 3.1.3) is a special case. In that practice, the meditation object includes thoughts. Once proficient, the meditator can attend to thoughts *as thoughts* and allow them to freely arise and change. These thoughts are therefore spontaneous. Attending to such thoughts *as thoughts* does not involve straying of attention. However, if the meditator instead becomes absorbed in the thoughts, attention is taken to have strayed.

acceptance of spontaneous thought. In particular, and in contrast to Shamatha and TM, there is no meditation object. As such, no question arises as to whether the meditator's awareness has strayed from an object, and there is no need to bring awareness back to one.

Table 3 Summary of Conclusions – Tolerance of Mind-wandering

Feature	Shamatha	TM	Stillness Meditation
Tolerance of mind-wandering ^a	None/Low	Medium	High

^a Defined as spontaneous thought.

3.4.4 Fading content, and calm/relaxation

In each practice, mental content such as thoughts, perceptions, and images gradually settles and fades, as the meditator moves towards the goal-state/s (sections 3.1.4, 3.2.3, 3.3.4). The meditator also experiences a growing sense of calm and relaxation (sections 3.1.2, 3.1.4, 3.2.3, 3.3.4).

Table 4 Summary of Conclusions – Fading Content, and Calm/Relaxation

Feature	Shamatha	TM	Stillness Meditation
Gradual settling/fading of thoughts, perceptions, and images	Yes	Yes	Yes
Increasing calm and relaxation	Yes	Yes	Yes

3.4.5 Introspection/monitoring

In this paper we are using the term introspection as it is defined by Wallace: It is the monitoring of the mind and/or body (section 3.1.2). Monitoring is a key facet of Shamatha practice. Its main role is to gauge whether and to what extent attention is focused on the meditation object, and to assess the degree of vividness. It is also used to ensure that the practice is otherwise being undertaken correctly, which includes maintaining the appropriate posture. The monitoring is intermittent, and at advanced stages it is counterproductive and therefore abandoned.

In TM and Stillness Meditation there is no instruction for the meditator to engage in monitoring. If the TM practitioner happens to notice that they have lost awareness of the mantra, they return to it. It is not suggested, though, that they actively monitor their awareness. The TM organization has explicitly stated that the practice does not involve monitoring (Maharishi Foundation USA 2018; see also Travis and Parim 2017).

In general, deliberate monitoring seems incompatible with Stillness Meditation. That is because in that practice the meditator relinquishes all deliberate doing soon after commencing a meditation session (section 3.3.3). One area where monitoring may be

permitted is the identification of movement out of the correct posture by beginner meditators (section 3.3.2). It is not clear from the Stillness Meditation texts whether monitoring is allowed in that context. If monitoring is allowed, it would be intermittent rather than continuous (section 3.3.2), and since the posture can be quickly stabilized, very little would be required.

Although it is not spoken about by the TM or Stillness Meditation experts, it seems likely that beginner meditators in those practices would engage in a small degree of monitoring. Those meditators will have been instructed as to what is required in order to practise correctly, and it seems unrealistic to think that during the early sessions they would not occasionally check their practice against the instructions. TM meditators may wish to check, for example, that their posture is comfortable, and that they are repeating the mantra in an unforced manner (sections 3.2.2, 3.2.4). Stillness Meditation practitioners might check that their posture is correct, and that, besides maintaining the posture, they are giving up the effort of *doing* anything (section 3.3.3).⁹ It also seems plausible that experienced meditators in the two practices might engage in a similar, but more subtle and abbreviated, form of monitoring right at the beginning of a meditation session.

Table 5 Summary of Conclusions – Introspection/Monitoring

Feature	Shamatha	TM	Stillness Meditation
Introspection/monitoring during earlier interim-states	Medium ^a	None/Very low	None/Very low
Introspection/monitoring during later interim-states	None/Very low	None	None

Note. ^a Rated Medium rather than High because the monitoring is intermittent not continuous.

3.4.6 Deliberate doing/control and associated effort

In cognitive science it is understood that control refers to the guiding of mental or physical experience or action (Christoff et al. 2016; Markovic and Thompson 2016), and that it can be deliberate or automatic (Lutz et al. 2015). Effort refers to the degree to which something is experienced as difficult, as opposed to easy (Lutz et al. 2015; Stan and Christoff 2018). The expert texts analyzed in this paper rely on the constructs control and effort, but the experts tend not to formally define them. To facilitate discussion we will therefore employ the cognitive science understandings above, while at the same time explaining the particular ways in which the constructs are applied in the expert texts.

⁹ Monitoring is itself a form of doing (see section 3.4.6 below). As the meditator learns the practice they will recognize this, and therefore give up the effort of monitoring as well.

A degree of control is required whenever the meditator is *doing* something, so we will often refer to “doing/control”. In Stillness Meditation a clear distinction is drawn between doing/control associated with the posture, and other forms of doing/control. In this section we compare the deliberate doing/control and associated effort across the three practices, and we will also draw that distinction. We will first consider the postural elements, and we will then turn to the other aspects.

Postural aspects. In Shamatha the main postures are sitting (on a chair or cross-legged), and lying down (section 3.1.5). The typical posture in TM and the basic posture in Stillness Meditation is sitting on a chair (sections 3.2.4, 3.3.2). We will confine our discussion to the meditator sitting on a chair with their back supported by it, as that is a key posture in all three practices, and focusing on it enables easier comparison.

The posture in each practice involves some level of doing/control. In simply sitting on a chair, the meditator must maintain some muscle tone in the torso, back and neck muscles. As Meares (1989, p.125) points out, if they did not then they would collapse like a jellyfish. The Shamatha posture is very similar to the posture in Stillness Meditation. In those two practices the body is at ease rather than strained, but it must also be poised, rather than slouched. Wallace refers to this as a posture reflecting vigilance as opposed to collapsing (section 3.1.5), and Meares (1978/1986, p.34) and McKinnon (2002/2008, p.36) talk about it as an easy discipline or control. It seems that this element of bodily poise or discipline is not required in TM (section 3.2.4). Shamatha and Stillness Meditation therefore appear to involve an additional level of bodily doing/control.

In Shamatha and Stillness Meditation the poise or discipline is virtually identical, but it is labelled differently. In Stillness Meditation it is referred to as initial slight discomfort, whereas in Shamatha it is not. In Shamatha the posture is referred to as comfortable, on the basis that the body is at ease, and any discomfort is only slight.

At the beginning of a Stillness Meditation session, a small deliberate element of doing/control is required for the posture (section 3.3.2). Since Shamatha involves a very similar posture, one would expect that the deliberate element would be required in that practice too. Without deliberate doing/control, the meditator in each practice would likely slouch to some degree. Lutz et al. (2015) indicate that deliberate control entails a degree of effort. On that basis, the Shamatha and Stillness Meditation practitioners would experience some sense of effort associated with the posture at the beginning of the session. Since the TM posture does not require the same bodily poise or discipline (see above), the deliberate element of doing/control, and associated effort, would likely also be reduced. Depending on

the degree of slouching in the posture, it may even be that no deliberate doing/control, or related effort, is required.

The expert texts for the three practices either state or imply that once the meditator has progressed a little way towards the goal-state/s, deliberate doing/control relating to the posture is not required, and there is therefore no associated effort. In Stillness Meditation it is said that, with practice, the minor discomfort of the posture is transcended in the first few minutes of each session (Meares 1987/1991, p.115). The body remains in the correct posture without deliberate doing/control, and any sense that the posture is effortful subsides (section 3.3.2). Wallace (2010, p.48) notes that, with practice, the Shamatha meditator “learn[s] to rest in a stable posture”, and this supports the idea that what happens in Shamatha with respect to posture is similar to what happens in Stillness Meditation.

Table 6 Summary of Conclusions – Postural Deliberate Doing/Control and Associated Effort

Feature	Shamatha	TM	Stillness Meditation
Discipline in posture ^a	Medium	Low	Medium
Deliberate doing/control to maintain posture, and associated effort, during earlier interim-states ^b	Low	None/Very low	Low
Deliberate doing/control to maintain posture, and associated effort, during later interim-states ^b	None	None	None

Note. ^a Discipline in the posture can be achieved via deliberate and/or automatic control. ^b The deliberate doing/control includes any deliberate monitoring with respect to the posture. Such monitoring is discussed in the section above, but has also been taken into account in the ratings in this table.

Non-postural aspects. In this section, when we refer to doing/control and effort, we mean only those forms that are unrelated to posture. In the early and middle stages of Shamatha, there are various types of deliberate doing/control: The meditator must selectively attend to the meditation object (taking no interest in alternative objects), and they must introspect to detect excitation and laxity, and take measures to counteract them (section 3.1; SH1.10; Wallace 2011a, pp.180–182). These forms of deliberate doing/control require a degree of effort (section 3.1.2; SH1.10). At advanced stages, virtually no deliberate doing/control is required (section 3.1.4; SH1.10). The meditator has trained attention to remain on the object in a highly focused manner, and there is no or almost no excitation or laxity.

TM and Stillness Meditation appear to involve much less deliberate doing/control and associated effort than in Shamatha. For beginners or at the outset of a session there may be a small amount of monitoring with respect to aspects of the practices that are unrelated to

posture, but monitoring is generally discouraged (see section 3.4.5). Stillness Meditation does not involve a meditation object, and it therefore does not require any form of doing/control or effort entailed by the cultivation of selective attention.

The TM experts present TM as involving no deliberate control and no effort (section 3.2.2). They base this principally on the understanding that the movement towards the goal-state is automatic. Travis goes so far as to say that TM involves no “directing of attention” (Travis and Parim 2017, p.90), and Roth (2018, p.17) says similarly that there is “nothing guided”. A problem with the claim made by the TM experts is that it does not take into account the bringing of attention to the mantra at the beginning of a meditation session, or during the session when the meditator has ceased to transcend (section 3.2.3). Bringing attention to the mantra clearly involves a degree of deliberate control. The TM experts implicitly recognize this, in that they do not claim that it occurs automatically. Nevertheless, they present the practice as a whole as automatic, overlooking this facet. As noted above, Lutz et al. (2015) indicate that deliberate control entails a degree of effort. Based on that view, effort is involved in bringing attention to the mantra. According to Williamson (2010, p.87), Maharishi Mahesh Yogi acknowledged that bringing attention to the mantra involves a small amount of effort.

In Stillness Meditation, the meditator is advised to give up all doing/control from the beginning of a meditation session (section 3.3.3). Deliberately bringing attention to a meditation object is regarded as a gross form of doing/control and is clearly not part of the practice. The question occurs, however, whether some more subtle element of doing or control might be involved. Since the practice is all about giving up the effort of *doing* anything, the key question is whether that itself involves some subtle doing or control. For example, a beginner meditator may notice in a session that they are applying effort to *do* something, such as quietening their thoughts. At a cognitive level, they then compare that to the instruction for the practice – to give up the effort of *doing* anything – and then implement that instruction by giving up the effort (Isbel and Summers 2017). Arguably there *is* some guiding of mental experience here, and therefore an element of doing/control. However, from an experiential point of view, the meditator is simply *relinquishing* doing/control – the subtle element of doing/control is merely what is implicit in that relinquishment. Critically, the meditator does not have the attitude, “I *must* notice any effort I’m putting in, then recall the instructions, then give up that effort.” That would amount to having to *do* something in the practice. Experientially, the meditator simply *gives up* all doing.

The forms of deliberate doing/control in TM and Stillness Meditation discussed in the here above relate to the earlier interim-states, where the meditator is beginning their movement towards the goal-state/s. In the later interim-states, where the meditator is well on the way to the goal-state/s, it is clearer that there is no or almost no deliberate doing/control.

There is one form of deliberate doing/control that tends not to be highlighted in the expert texts, but that may be required to some degree in the earlier interim-states in all three practices. This is the very basic form of deliberate doing/control involved in continuing in a meditation session rather than simply giving up. In Stillness Meditation, continuing in a session means maintaining the posture and essentially *doing* nothing. Once the meditator gains an initial familiarity with the practice, it is said to be easy and pleasant (section 3.3.6), and it seems that little or no deliberate doing/control would be required to continue in a session. However, in the initial familiarization phase, a meditator may encounter anxiety, boredom or discomfort due to their not yet being used to the experience of non-doing (section 3.3.4). The meditator does not need to *do* anything about these negative feelings. They simply ignore them, and in time they pass (McKinnon 1991, 1983/2016). Nonetheless, the meditator does need to continue in the meditation session, rather than giving up. One would expect that the simple act of continuing in a session when experiencing negative feelings may involve at least some minimal deliberate doing/control and effort.

In Shamatha and TM, continuing in a session in the earlier interim-states involves maintaining the posture and engaging in the types of deliberate doing (e.g., returning attention to the meditation object) that we have already discussed. Shamatha and TM can also be taken to involve non-doing, since during a meditation session the meditator gives up many forms of doing that they would typically be engaged in in normal life. The non-doing in Shamatha and TM is less complete than in Stillness Meditation, but it is nonetheless a distinctive feature of the practices. Wallace says, for example, that “[S]hamatha entails doing almost nothing” (Wallace 2006a, p.49), and notes that “the vast majority of things that [one] could be doing ... have been eliminated” (Wallace 2011a, p.181). On this basis it seems fair to conclude that, during the initial familiarization phase in Shamatha and TM, some meditators might also experience negative feelings associated with non-doing. As in Stillness Meditation, continuing a meditation session in the face of these negative feelings might require at least a minimal degree of deliberate doing/control and effort.

Table 7 Summary of Conclusions – Non-Postural Deliberate Doing/Control and Associated Effort

Feature	Shamatha	TM	Stillness Meditation
Non-postural deliberate doing/control and associated effort during earlier interim-states	Medium ^a	Low	None/Very low
Non-postural deliberate doing/control and associated effort during later interim-states	None/Very low	None	None

Note. The deliberate doing/control includes any deliberate monitoring that is unrelated to the posture, and to that extent the table overlaps with Table 6. This Table 7 does not include the deliberate doing/control and effort involved in continuing a session in the face of negative feelings associated with non-doing. It seems that such feelings arise only in the initial familiarization phase and are experienced only by some meditators. ^a Rated Medium rather than High because there is a substantial degree of non-doing.

3.4.7 Ease, speed and frequency with which the goal-states are achieved

Based on the expert texts, the TM and Stillness Meditation goal-states are accessed much more easily, quickly, and frequently than the goal-state in Shamatha (see sections 3.1.7, 3.2.6, 3.3.6). For meditators who have achieved an initial familiarity with the practices, up until advanced stages Shamatha requires more non-postural effort within meditation sessions than the other two methods (see Table 7 above).¹⁰ If the meditator is serious about achieving the goal-state/s, Shamatha also involves much more practice per day. Unlike in TM and Stillness Meditation, progressing to the Shamatha goal-state requires fulfilment of various highly demanding preconditions, and these are usually taken to include withdrawing from active life. Achieving the goal-state/s is said to be exceptionally rare in Shamatha, but usual in TM and Stillness Meditation provided meditators maintain their practice.

If the Shamatha preconditions are satisfied, it is estimated that around 5,000 to 10,000 hours practice will be required for meditators to transition through the interim-states and access the Shamatha goal-state. The TM experts imply that most meditators will achieve the TM goal-state within 60 hours practice.¹¹ It appears that meditators regularly access the Stillness Meditation goal-states within a similar time frame (see sections 3.3.5 and 3.3.6).

TM experts often state or imply that the practice aims for a single goal-state, but their descriptions elsewhere suggest that there is variation in the experience that is aimed for (Woods et al. 2021). Stillness Meditation also refers to there being a range of goal-states (Woods et al. 2021). It appears that, with practice, TM and Stillness Meditation practitioners may progress within the goal-states, and that this involves moving from shallower goal-states to deeper ones. Taking Stillness Meditation as an example, in the shallower goal-states the

¹⁰ The posture quickly becomes effortless in a session, and postural effort is therefore less important.

¹¹ Three months (90 days) practice of 40 minutes per day (see sections 3.2.5 and 3.2.6).

meditator may still have very dull sense or body perceptions. As the meditator goes deeper, they lose those perceptions, and may eventually get to the deepest goal-state/s which they report as the simplest and most natural experience possible.

As explained above, the traditional accounts indicate that TM and Stillness Meditation practitioners access the goal-state experience much more easily and quickly than in Shamatha. What is not clear, however, is how long it takes for TM and Stillness Meditation practitioners to access specific goal-states. For example, McKinnon (1983/2016, p.217) says that it may take some people 2 years (approximately 500 hours) to be having a “deep and fulfilling” experience of the goal-states in Stillness Meditation.¹² It is not clear, however, whether she has in mind merely the absence of perceptions (as opposed to very dull perceptions), the deepest goal-state/s, or something else. Her comment also leaves open the possibility that, prior to the 2 year mark, such meditators may be having shallower experiences of the goal-states, and that they may have their first experience of the goal-states soon after commencing their practice. Where TM is presented as having a single goal-state (as opposed to a range of goal-states), that can obscure variation in the experience, making it even more difficult to work out how long it takes to access specific states.

Table 8 Summary of Conclusions – Ease, Speed and Frequency with which Goal-states are Achieved

Feature	Shamatha	TM	Stillness Meditation
Ease ^a	Difficult	Easy	Easy
Speed ^b	Slow	Medium/Fast	Medium/Fast
Frequency ^c	Very low	High	High

Note. The table summarizes the ease, speed and frequency of achieving a goal-state in a practice. It does not necessarily cover every goal-state, and in particular the deepest goal-state/s.

^a Based on the effort involved in meditation sessions, any preconditions, and the practice per day and lifetime hours practice required. ^b Based on lifetime hours of practice required. ^c Low frequency means it is rare for an individual to achieve the goal-state.

3.4.8 Summary of findings for the graded dimensions with appreciable differences

The dimensions discussed above are either graded (e.g., None to Very high) or binary (Yes/No). Figures 3 and 4 summarize the findings for the 10 graded dimensions for which there are appreciable differences across the practices. Figure 3 deals with the two specifically relating to posture, and Figure 4 covers the other eight.

¹² McKinnon refers to 2 years of practice. Assuming that the meditator practises for 40 minutes per day (see section 3.3.5), that constitutes 487 hours.

Fig. 3 Findings for the two graded dimensions which specifically relate to posture and for which there are appreciable differences across the practices. For both dimensions, 0 = None, 3 = Low, 6 = Medium, 9 = High. In this Figure 3 and in Figure 4, where the rating in the relevant summary table is a range (e.g., None/Low) rather than a single level (e.g., None), the midpoint of that range is used

Fig. 4 Findings for the other eight graded dimensions for which there are appreciable differences across the practices. For the dimension “Ease with which goal-state/s achieved”, 3 = Difficult, 6 = Medium, 9 = Easy. For the dimension “Speed with which goal-state/s achieved”, 3 = Slow, 6 = Medium, 9 = Fast. For the remaining six dimensions, 0 = None, 3 = Low, 6 = Medium, 9 = High

4. Discussion

4.1 Similarities and differences across the practices

In summarizing our findings from the comparison across the practices, we can first note that there are a number of dimensions for which our rating was the same or very similar across all three traditions. In each of the practices, there is a gradual settling or fading of thoughts, perceptions, and images, and increasing calm and relaxation. In the later interim-states there is also no or very low: introspection/monitoring; and deliberate doing/control, and associated effort, relating to the posture and otherwise.

For the remaining dimensions there are appreciable differences between two or all three practices. These dimensions can be split into those specifically relating to posture and those that are more general. On the postural dimensions (Figure 3), Shamatha and Stillness Meditation are the same, and TM is different: In Shamatha and Stillness Meditation there is a little more discipline in the posture, and, as a consequence, in the earlier interim-states there is slightly more deliberate doing/control and associated effort relating to the posture.

Of the nine more general dimensions, one is binary (Yes/No) and the other eight are graded (e.g., None to Very high). On the binary dimension – whether or not there is a meditation object – Shamatha and TM are the same (Yes), and Stillness Meditation is different (No). Ratings for the eight graded dimensions are shown in the radar chart in Figure 4.

Two main points stand out from the chart. The first is that the TM and Stillness Meditation profiles are similar, and the Shamatha profile is markedly different. This finding fits neatly with the understanding that Shamatha aims for exceptional/perfect attentional stability and vividness, whereas TM and Stillness Meditation do not (section 3.4.2; Woods et al. 2021). As Shamatha aims for exceptional stability and vividness, it involves: greater measures/steps to cultivate stability/vividness of attention on a meditation object; greater focusing/concentration; less tolerance of mind-wandering; more introspection/ monitoring during the earlier interim-states; and more deliberate doing/control and associated effort (unrelated to posture) in that earlier phase. For the same reason, achieving the goal-state/s in Shamatha is much slower, more difficult, and less frequent.

The second point that stands out from the chart is that the Stillness Meditation profile/shape is narrower than that for TM. Principally, this appears to reflect that Stillness Meditation does not require the discipline of bringing or returning attention to a meditation object. That requirement in TM leads to higher ratings than Stillness Meditation for: measures/steps to cultivate stability and vividness of attention on an object; focusing/ concentration; and deliberate doing/control and associated effort (unrelated to posture) in the earlier interim-states. It leads to a lower rating for tolerance of mind-wandering.

4.2 Implications and future research

The findings in this evidence synthesis provide rich understandings of the techniques and interim-states. These understandings have important implications for consciousness, neuroscientific, and clinical work, and are valuable for meditation practitioners.

Contentless experiences, as aimed for in Shamatha, TM and Stillness Meditation, are of great interest in the field of consciousness studies. The traditional understanding in the academic literature is that these goal-states are instances of *pure consciousness* or consciousness itself (Stace 1960/1961; Forman 1990, 1998; Shear 2006d). Our findings concerning the techniques and interim-states help to understand the goal-states. For example, our finding that the TM interim-states involve little focusing of attention weighs against Goleman's (1988) and Forman's (1999) claim that upon reaching the TM goal-state/s attention will be highly focused. Our finding that it is much quicker and easier to progress

through the interim-states in TM and Stillness Meditation is consistent with the understanding that the goal-states in those practices involve less attentional stability and vividness than in Shamatha (Woods et al. 2021). As these examples illustrate, research on contentless experiences can profit from examining the techniques and interim-states in the relevant practices, rather than focusing on the goal-states alone.

One challenge for neuroscientists is to understand the cognitive mechanisms or processes involved in achieving contentless experiences. Meditation techniques may be different, but the underlying mechanisms could be the same. Understanding the techniques, interim-states, and goal-states in detail based on expert texts provides a foundation for these investigations. Our work suggests a distinction between practices that aim for contentless experiences with exceptional/perfect attentional stability and vividness, and practices in which stability and vividness are substantially lower. The former includes practices like Shamatha, which access contentless experience by cultivating exceptional focusing of attention over the course of the interim-states. The latter includes TM and Stillness Meditation, in which there is little or no focusing in the interim-states. Homing in on this difference in attention (i.e., focused vs. unfocused) may provide a fruitful starting point for researchers interested in the cognitive mechanisms at play.

In the Shamatha, TM and Stillness Meditation traditions, the contentless experiences are understood to bring about major improvements to mental health and wellbeing (Meares 1978/1986; Wallace 2006a; Pearson 2013). If this understanding is correct, our finding that TM and Stillness Meditation access contentless experiences much more quickly, easily, and frequently seems important for clinicians recommending practices for clinical purposes. This finding is, however, just one of many considerations that should be taken into account. Another important factor is any clinical benefits that derive from the various interim-states, and how quickly, easily and frequently those states are achieved.

Our analysis is valuable for practitioners because it gives them a deeper understanding of how to go about their practice, and whether they are on the right path in terms of what they are experiencing. As an example, across the Stillness Meditation texts there are many different presentations of the technique. If a meditator reads only one or two books on the practice, they may have a limited understanding of what it involves. Our description of the Stillness Meditation technique takes into consideration all of the major texts. It will therefore provide meditators with novel perspectives.

Future research could examine the techniques and interim-states using participant-based methods like questionnaires (e.g., Kok and Singer 2017) or *microphenomenology*

(e.g., Przyrembel and Singer 2018; Petitmengin et al. 2019). Do participants apply the techniques, and experience interim-states, as described by the experts? What do they report concerning the speed, ease, and frequency of accessing the goal-states?

Evidence synthesis or participant-based studies with respect to other practices would also be of value. A promising strategy would be to investigate additional practices associated with contentless experience, and other practices, such as insight (Sanskrit: *vipashyana*) meditation, that tend not to be (Gimello 1978; Jones 1993; Wallace and Wilhelm 1993; Wallace 2005; Markovic and Thompson 2016). Comparing practices on key dimensions would allow further exploration of the patterns of similarities and differences in contentless approaches, and would reveal critical distinctions with the other techniques.

4.3 Limitations

We have used a scientific method, evidence synthesis, to describe features of Shamatha, TM and Stillness Meditation and compare them across the practices. Limitations of evidence synthesis with this objective have been discussed in some detail in Woods et al. (2020). The main limitation concerns the reliability of descriptions in the expert texts. The experts have outstanding qualifications in terms of their knowledge of the practices, but they may lack skills in science and phenomenology that are required to address particular issues (e.g., delay between experience and report: Hurlburt and Schwitzgebel 2007) that impact on reliability. In Woods et al. (2020) we discussed this limitation in connection with very subtle aspects of contentless experience that are often described as being beyond words. In contrast, the techniques and interim-states tend to be less subtle, and closer to the realm of activity and experience in normal waking life. While the limitation still applies in this context, it seems less of an issue than when discussing contentless experience.

A possible criticism of this paper is that the first author (TW) is most familiar with Stillness Meditation, having practised it for more than 20 years. However, protections were built into the evidence synthesis method to guard against bias on his part. These included independent assessment of samples of his decision-making by the third author (OC). Neither OC nor JW have any personal history with Shamatha, TM or Stillness Meditation. The evidence synthesis method, the extraction tables, the descriptions based on them, and the critical analysis have all been made available (see Woods et al. 2020 and section 3). This ensures complete transparency, allowing others to critique the process, analysis, and findings if they consider that any error has been made.

4.4 Conclusion

The formal, structured, and transparent method used in this paper has produced rich understandings of the paths to contentless experience in Shamatha, TM and Stillness Meditation. We have identified key dimensions of the techniques and interim-states including presence or absence of a meditation object, measures/steps to cultivate stability and vividness of attention on an object, focusing/concentration, tolerance of mind-wandering, introspection/monitoring, and deliberate doing/control and associated effort. On a surface-level examination of the practices, Shamatha and TM appear very different to Stillness Meditation, in that they require bringing awareness to a meditation object whereas Stillness Meditation involves no object at all. The more detailed and systematic approach taken in this paper indicates that posturally Shamatha is more similar to Stillness Meditation, and that on several other dimensions Shamatha is quite different to both of the other practices. The findings have important ramifications for consciousness, neuroscientific and clinical research and practice, and will provide new and useful insights for meditation practitioners.

References

- Christoff, K., Irving, Z. C., Fox, K. C., Spreng, R. N., & Andrews-Hanna, J. R. (2016). Mind-wandering as spontaneous thought: A dynamic framework. *Nature Reviews Neuroscience*, 17(11), 718–731. <https://doi.org/10.1038/nrn.2016.113>
- Christoff, K., Mills, C., Andrews-Hanna, J. R., Irving, Z. C., Thompson, E., Fox, K. C. R., & Kam, J. W. Y. (2018). Mind-wandering as a scientific concept: Cutting through the definitional haze. *Trends in Cognitive Sciences*, 22(11), 957–959. <https://doi.org/10.1016/j.tics.2018.07.004>
- Costines, C., Borghardt, T. L., & Wittmann, M. (2021). The phenomenology of “pure” consciousness as reported by an experienced meditator of the Tibetan Buddhist Karma Kagyu tradition. Analysis of interview content concerning different meditative states. *Philosophies*, 6(50), 1–22. <https://doi.org/10.3390/philosophies6020050>
- Eifring, H. (2018). Spontaneous thought in contemplative traditions. In C. R. Fox & K. Christoff (Eds.), *The Oxford handbook of spontaneous thought: Mind-wandering, creativity, and dreaming* (pp. 529–538). Oxford, United Kingdom: Oxford University Press.
- Faber, P. L., Travis, F., Milz, P., & Parim, N. (2017). EEG microstates during different phases of Transcendental Meditation practice. *Cognitive Processing*, 18, 307–314. <https://doi.org/10.1007/s10339-017-0812-y>
- Forman, R. K. C. (Ed.). (1990) *The problem of pure consciousness: Mysticism and philosophy*. New York, NY: Oxford University Press.
- Forman, R. K. C. (Ed.). (1998) *The innate capacity: Mysticism, psychology, and philosophy*. New York, NY: Oxford University Press.

- Forman, R. K. C. (1999). *Mysticism mind consciousness*. Albany, NY: SUNY Press.
- Gamma, A., & Metzinger, T. (2021). The Minimal Phenomenal Experience questionnaire (MPE-92M): Towards a phenomenological profile of “pure awareness” experiences in meditators. *PLoS One*, 16(7), 1–39. <https://doi.org/10.1371/journal.pone.0253694>
- Gimello, R. M. (1978). Mysticism and meditation. In S. T. Katz (Ed.), *Mysticism and philosophical analysis* (pp. 170–199). New York, NY: Oxford University Press.
- Goleman, D. (1988). *The meditative mind: The varieties of meditative experience*. New York, NY: Target/Putnam.
- Goleman, D., & Davidson, R. J. (2017). *Altered traits: Science reveals how meditation changes your mind, brain, and body*. New York, NY: Penguin.
- Gyatso, J. (2016). Forward. In A. Raz & M. Lifshitz (Eds.), *Hypnosis and meditation: Towards an integrative science of conscious planes* (pp. vii–ix). Oxford, United Kingdom: Oxford University Press.
- Hurlburt, R. T., & Schwitzgebel, E. (2007). *Describing inner experience? Proponent meets skeptic*. Cambridge, MA: MIT Press.
- Irving, Z. C. (2016). Mind-wandering is unguided attention: Accounting for the “purposeful” wanderer. *Philosophical Studies*, 173, 547–571. <https://doi.org/10.1007/s11098-015-0506-1>
- Isbel, B., & Summers, M. J. (2017). Distinguishing the cognitive processes of mindfulness: Developing a standardised mindfulness technique for use in longitudinal randomised control trials. *Consciousness and Cognition*, 52, 75–92. <https://doi.org/10.1016/j.concog.2017.04.019>
- Jacobs, T. L., Epel, E. S., Lin, J., Blackburn, E. H., Wolkowitz, O. M., Bridwell, D. A., Zanesco, A. P., Aichele, S. R., Sahdra, B. K., MacLean, K. A., King, B. G., Shaver, P. R., Rosenberg, E. L., Ferrer, E., Wallace, B. A., & Saron, C. D. (2011). Intensive meditation training, immune cell telomerase activity, and psychological mediators. *Psychoneuroendocrinology*, 36(5), 664–681. <https://doi.org/10.1016/j.psyneuen.2010.09.010>
- Jones, R. H. (1993). *Mysticism examined: Philosophical inquiries into mysticism*. Albany, NY: SUNY Press.
- Josipovic, Z., & Miskovic, V. (2020). Nondual awareness and minimal phenomenal experience. *Frontiers in Psychology*, 11, 1–9. <https://doi.org/10.3389/fpsyg.2020.02087>
- Kok, B. E., & Singer, T. (2017). Phenomenological fingerprints of four meditations: Differential state changes in affect, mind-wandering, meta-cognition, and interoception before and after daily practice across 9 months of training. *Mindfulness*, 8(1), 218–231. <https://doi.org/10.1007/s12671-016-0594-9>
- Lindahl, J. R., Kaplan, C. T., Winget, E. M., & Britton, W. B. (2014). A phenomenology of meditation-induced light experiences: Traditional Buddhist and neurobiological

- perspectives. *Frontiers in Psychology*, 4, 1–16.
<https://doi.org/10.3389/fpsyg.2013.00973>
- Lutz, A., Dunne, J. D., & Davidson, R. J. (2007). Meditation and the neuroscience of consciousness: An introduction. In P. D. Zelazo, M. Moscovitch, & E. Thompson (Eds.), *The Cambridge handbook of consciousness* (pp. 499–551). New York, NY: Cambridge University Press.
- Lutz, A., Jha, A. P., Dunne, J. D., & Saron, C. D. (2015). Investigating the phenomenological matrix of mindfulness-related practices from a neurocognitive perspective. *American Psychologist*, 70(7), 632–658. <https://doi.org/10.1037/a0039585>
- Maharishi Foundation USA (2018). Transcendental Meditation: The technique for inner peace and wellness. <https://www.tm.org/>. Accessed 20 December 2018.
- Markovic, J. & Thompson, E. (2016). Hypnosis and meditation: A neurophenomenological comparison. In A. Raz & M. Lifshitz (Eds.), *Hypnosis and meditation: Towards an integrative science of conscious planes* (pp. 79–106). Oxford, United Kingdom: Oxford University Press.
- McKinnon, P. (1991). *Help yourself and your child to happiness*. Melbourne, Australia: David Lovell.
- McKinnon, P. (2002/2008). *Let's be still: Teaching Stillness Meditation to children and adolescents*. Melbourne, Australia: David Lovell.
- McKinnon, P. (2011). *Living calm in a busy world: Stillness Meditation in the Meares tradition*. Melbourne, Australia: David Lovell.
- McKinnon, P. (1983/2016). *In stillness conquer fear: How to break free from anxiety and phobias* (Rev. ed.). Melbourne, Australia: Garratt.
- Meares, A. (1967/1968). *Relief without drugs: The self-management of tension, anxiety, and pain*. London, United Kingdom: Souvenir Press.
- Meares, A. (1973a). A psychiatric experiment in community service. *The Medical Journal of Australia*, 15(4), 733–734. <https://doi.org/10.5694/j.1326-5377.1973.tb110661.x>
- Meares, A. (1973b). *Dialogue with youth*. London, United Kingdom: Collins.
- Meares, A. (1977a) Atavistic regression as a factor in the remission of cancer. *The Medical Journal of Australia*, 2(4), 132–133. <https://doi.org/10.5694/j.1326-5377.1977.tb99090.x>
- Meares, A. (1984). *A way of doctoring*. Melbourne, Australia: Hill of Content.
- Meares, A. (1976/1984). *From the quiet place*. Melbourne, Australia: Hill of Content.
- Meares, A. (1978/1986). *The wealth within: Self-help through a system of relaxing meditation*. Melbourne, Australia: Hill of Content.
- Meares, A. (1987a). *Let's be at ease*. Melbourne, Australia: Greenhouse.

- Meares, A. (1988). *The silver years: Practical advice for a rewarding later life*. Melbourne, Australia: Greenhouse.
- Meares, A. (1989). *A better life: The guide to meditation*. Melbourne, Australia: Greenhouse.
- Meares, A. (1987/1991). *Life without stress: The self-management of stress*. Melbourne, Australia: Penguin.
- Metzinger, T. (2020). Minimal phenomenal experience: Meditation, tonic alertness, and the phenomenology of “pure” consciousness. *Philosophy and the Mind Sciences*, 1(1), 1–44. <https://doi.org/10.33735/phimisci.2020.I.46>
- Millière, R., Carhart-Harris, R. L., Roseman, L., Trautwein, F. M., & Berkovich-Ohana, A. (2018). Psychedelics, meditation, and self-consciousness. *Frontiers in Psychology*, 9, 1–29. <https://doi.org/10.3389/fpsyg.2018.01475>
- Mills, C., Raffaelli, Q., Irving, Z. C., Stan, D., & Christoff, K. (2018). Is an off-task mind a freely-moving mind? Examining the relationship between different dimensions of thought. *Consciousness and Cognition*, 58, 20–33. <https://doi.org/10.1016/j.concog.2017.10.003>
- Pearson, C. (2013). *The supreme awakening: Experiences of enlightenment throughout time – and how you can cultivate them*. Fairfield, IA: Maharishi University of Management Press.
- Petitmengin, C., van Beek, M., Bitbol, M., Nissou, J. M., & Roepstorff, A. (2019). Studying the experience of meditation through micro-phenomenology. *Current Opinion in Psychology*, 28, 54–59. <https://doi.org/10.1016/j.copsyc.2018.10.009>
- Przyrembel, M., & Singer, T. (2018). Experiencing meditation – Evidence for differential effects of three contemplative mental practices in micro-phenomenological interviews. *Consciousness and Cognition*, 62, 82–101. <https://doi.org/10.1016/j.concog.2018.04.004>
- Rosenberg, E. L., Zanesco, A. P., King, B. G., Aichele, S. R., Jacobs, T. L., Bridwell, D. A., MacLean, K. A., Shaver, P. R., Ferrer, E., Sahdra, B. K., Lavy, S., Wallace, B. A., & Saron, C. D. (2015). Intensive meditation training influences emotional responses to suffering. *Emotion*, 15(6), 775–790. <https://doi.org/10.1037/emo0000080>
- Rosenthal, N. E. (2011/2012). *Transcendence: Healing and transformation through Transcendental Meditation*. New York, NY: Penguin.
- Rosenthal, N. E. (2016/2017). *Super Mind: How to boost performance and live a richer and happier life through Transcendental Meditation*. New York, NY: Penguin.
- Roth, B. (2018). *Strength in stillness: The power of Transcendental Meditation*. London, United Kingdom: Simon & Schuster.
- Seli, P., Kane, M. J., Metzinger, T., Smallwood, J., Schacter, D. L., Maillet, D., Schooler, J. W., & Smilek, D. (2018a) The family-resemblances framework for mind-wandering remains well clad. *Trends in Cognitive Sciences*, 22(11), 959–961. <https://doi.org/10.1016/j.tics.2018.07.004>

- Seli, P., Kane, M. J., Smallwood, J., Schacter, D. L., Maillet, D., Schooler, J. W., & Smilek, D. (2018b). Mind-wandering as a natural kind: A family-resemblances view. *Trends in Cognitive Sciences*, 22(6), 479–490. <https://doi.org/10.1016/j.tics.2018.03.010>
- Shear, J. (1990b). *The inner dimension: Philosophy and the experience of consciousness* (2nd ed.). London, United Kingdom: Harmonia.
- Shear, J. (1996b) On the existence of a culture independent core component of self. In N. Smart & B. S. Murthy (Eds.), *East-west encounters in philosophy and religion* (pp. 359–376). Long Beach, CA: Long Beach.
- Shear, J. (1995/1997b). The hard problem: Closing the empirical gap. In J. Shear (Ed.), *Explaining consciousness – The “hard” problem* (pp. 359–375). Cambridge, MA: MIT Press.
- Shear, J. (2004). Mysticism and scientific naturalism. *Sophia*, 43(1), 83–99. <https://doi.org/10.1007/bf02782439>
- Shear, J. (2006b). Introduction. In J. Shear (Ed.), *The experience of meditation: Experts introduce the major traditions* (pp. xiii–xxii). St. Paul, MN: Paragon House.
- Shear, J. (2006c). Transcendental Meditation. In J. Shear (Ed.), *The experience of meditation: Experts introduce the major traditions* (pp. 23–48). St. Paul, MN: Paragon House.
- Shear, J. (Ed.). (2006d). *The experience of meditation: Experts introduce the major traditions*. St. Paul, MN: Paragon House.
- Shear, J. (2011a). Eastern approaches to altered states of consciousness. In E. Cardena & M. Winkelman (Eds.), *Altering consciousness: Multidisciplinary perspectives* (Vol. 1, pp. 139–158). Santa Barbara, CA: Praeger.
- Shear, J. (2011b). State-enlivening and practice-makes-perfect approaches to meditation. *Biofeedback*, 39(2), 51–55. <https://doi.org/10.5298/1081-5937-39.2.07>
- Shear, J. & Jevning, R. (1999a). Pure consciousness: Scientific exploration of meditation techniques. *Journal of Consciousness Studies*, 6(2–3), 189–210.
- Smallwood, J., & Schooler, J. W. (2006). The restless mind. *Psychological Bulletin*, 132(6), 946–948. <https://doi.org/10.1037/0033-2909.132.6.946>
- Stace, W. T. (1960/1961). *Mysticism and philosophy*. London, United Kingdom: Macmillan.
- Stan, D., & Christoff, K. (2018). The mind wanders with ease: Low motivational intensity is an essential quality of mind-wandering. In K. C. R. Fox & K. Christoff (Eds.), *The Oxford handbook of spontaneous thought: Mind-wandering, creativity, and dreaming* (pp. 47–53). New York, NY: Oxford University Press.
- Tang, Y. Y., Hölzel, B. K., & Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nature Reviews Neuroscience*, 16(4), 213–225. <https://doi.org/10.1038/nrn3916>

- Tong, A., Flemming, K., McInnes, E., Oliver, S., & Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Medical Research Methodology*, 12(181), 1–8. <https://doi.org/10.1186/1471-2288-12-181>
- Travis, F. (2006). From I to I: Concepts of self on an object-referral/self-referral continuum. In A. P. Prescott (Ed.), *The concept of self in psychology* (pp. 21–43). New York, NY: Nova Science.
- Travis, F. (2011). States of consciousness beyond waking, dreaming and sleeping: Perspectives from research on meditation experiences. In D. Cvetkovic & I. Cosic (Eds.), *States of consciousness: Experimental insights into meditation, waking, sleep and dreams* (pp. 223–234). Berlin, Germany: Springer.
- Travis, F. (2014). Transcendental experiences during meditation practice. *Annals of the New York Academy of Sciences*, 1307(1), 1–8. <https://doi.org/10.1111/nyas.12316>
- Travis, F., Munly, K., Olson, T. M., & Sorflaten, J. W. (2005). Maharishi Vedic science addresses the “hard” problem of consciousness. *Journal of Social Behavior and Personality*, 17(1), 123–135.
- Travis, F., & Parim, N. (2017). Default mode network activation and Transcendental Meditation practice: Focused attention or automatic self-transcending? *Brain and Cognition*, 111, 86–94. <https://doi.org/10.1016/j.bandc.2016.08.009>
- Travis, F., & Shear, J. (2010a) Focused attention, open monitoring and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist and Chinese traditions. *Consciousness and Cognition*, 19(4), 1110–1118. <https://doi.org/10.1016/j.concog.2010.01.007>
- Wahbeh, H., Sagher, A., Back, W., Pundhir, P., & Travis, F. (2018). A systematic review of transcendent states across meditation and contemplative traditions. *Explore*, 14(1), 19–35. <https://doi.org/10.1016/j.explore.2017.07.007>
- Wallace, B. A. (1999a). The Buddhist tradition of Samatha: Methods for refining and examining consciousness. *Journal of Consciousness Studies*, 6(2–3), 175–187.
- Wallace, B. A. (2001/2003). *Buddhism with an attitude: The Tibetan seven-point mind-training*. Ithaca, NY: Snow Lion.
- Wallace, B. A. (2005). *Genuine happiness: Meditation as the path to fulfillment*. Hoboken, NJ: John Wiley.
- Wallace, B. A. (1998/2005). *Balancing the mind: A Tibetan Buddhist approach to refining attention*. Boston, MA: Shambhala.
- Wallace, B. A. (2006a). *The attention revolution: Unlocking the power of the focused mind*. Somerville, MA: Wisdom.
- Wallace, B. A. (2007b). *Hidden dimensions: The unification of physics and consciousness*. New York, NY: Columbia University Press.

- Wallace, B. A. (2010). *The four immeasurables: Practices to open the heart* (3rd ed.). Ithaca, NY: Snow Lion.
- Wallace, B. A. (2011a). *Minding closely: The four applications of mindfulness*. Ithaca, NY: Snow Lion.
- Wallace, B. A. (2011b). *Stilling the mind: Shamatha teachings from Dūdjom Lingpa's Vajra Essence*. Somerville, MA: Wisdom.
- Wallace, B. A. (2012). *Dreaming yourself awake: Lucid dreaming and Tibetan dream yoga for insight and transformation*. Boston, MA: Shambhala.
- Wallace, B. A. (2012/2014). *Meditations of a Buddhist skeptic: A manifesto for the mind sciences and contemplative practice*. New York, NY: Columbia University Press.
- Wallace, B. A. (2009/2014). *Mind in the balance: Meditation in science, Buddhism, and Christianity*. New York, NY: Columbia University Press.
- Wallace, B. A. (2018). *Fathoming the mind: Inquiry and insight in Dūdjom Lingpa's Vajra Essence*. Somerville, MA: Wisdom.
- Wallace, B. A., & Hodel, B. (2008). *Embracing mind: The common ground of science & spirituality*. Boston, MA: Shambhala.
- Wallace, B. A., & Wilhelm, S. (1993). *Tibetan Buddhism from the ground up: A practical approach for modern life*. Boston, MA: Wisdom.
- Williamson, L. (2010). *Transcendent in America: Hindu-inspired meditation movements as new religion*. New York, NY: New York University Press.
- Woods T. J., Windt, J. M., & Carter, O. (2020). Silence in Shamatha, Transcendental, and Stillness meditation: An evidence synthesis based on expert texts. *Frontiers in Psychology, 11*, 1–19. <https://doi.org/10.3389/fpsyg.2020.01259>
- Woods T. J., Windt, J. M., & Carter, O. (2021). Evidence synthesis indicates contentless experiences in meditation are neither truly contentless nor identical. *MindRxiv*.
- Zanesco, A. P., King, B. G., Powers, C., De Meo, R., Wineberg, K., MacLean, K. A., & Saron, C. D. (2019). Modulation of event-related potentials of visual discrimination by meditation training and sustained attention. *Journal of Cognitive Neuroscience, 31*(8), 1184–1204. https://doi.org/10.1162/jocn_a_01419