ORIGINAL PAPER

Imagination-Based Loving-Kindness and Compassion Meditation: A New Meditation Method Developed from Chinese Buddhism

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Abstract

Many loving-kindness and compassion meditation methods used in psychological research are derived from Theravada and Tibetan Buddhism. Zhiyi (智顗), a representative figure of Chinese Buddhism, proposed a different meditation method, namely, imagination-based loving-kindness and compassion meditation. The current article introduces the imagination-based loving-kindness and compassion meditation proposed by Zhiyi and compares it with meditation methods from Theravada and Tibetan Buddhism. Zhiyi's method limits the content of imagination during meditation, which can be an essential supplement to the free association method derived from Theravada Buddhism. Zhiyi's method of helping others entirely through imagination differs significantly from the tonglen method derived from Tibetan Buddhism and may be more suitable for participants without religious beliefs. Based on Zhiyi's source text and previous psychological studies, a mental-health training program for imagination-based loving-kindness and compassion meditation is proposed. The limitations of Zhiyi's method and the future directions for empirical research on Zhiyi's method are also discussed. The differences between Zhiyi's method and other methods in terms of effects and applicable populations need to be examined in future studies.

Keywords Imagination · Meditation · Loving-kindness · Compassion · Zhiyi

Abbreviations
T   Taishō edition

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Introduction

Loving-kindness refers to a mental state of unselfish and unconditional kindness to all beings. Compassion can be defined as an emotion that elicits the heart-felt wish that sentient beings be free from suffering and the causes of suffering. Loving-kindness meditation (LKM) involves techniques for developing an affective state of unconditional kindness to all people. Compassion mediation (CM) involves techniques for cultivating compassion, or deep, genuine sympathy, for those stricken by misfortune, together with an earnest wish to ease this suffering (Hofmann et al., 2011). Many loving-kindness and compassion meditation methods used in psychological research to train participants are derived from Theravada and Tibetan Buddhism. Zhiyi (智顗, 538–597 CE) proposed a new meditation method that is different from the methods commonly used in psychological studies, namely, imagination-based loving-kindness and compassion meditation. As the founder of the Tiantai tradition of Buddhism, Zhiyi is a representative figure of Chinese Buddhism.

This article will introduce this meditation method and compare it with meditation methods from Theravada and Tibetan Buddhism. Zhiyi's method is very similar to the free association method derived from Theravada Buddhism. The significant difference is that Zhiyi's method has strict restrictions on imagination content, while the free association method does not specify how to control the practitioner's imagination. Therefore, Zhiyi's method can be seen as an essential supplement to the free association method. Zhiyi's method differs significantly from the tonglen method derived from Tibetan Buddhism. The tonglen method requires the practitioner to combine the image of helping others with exhalation and inhalation, while Zhiyi's method is to imagine a situation of specific content. Based on Zhiyi's source text and previous psychological studies, a mental-health training program for imagination-based loving-kindness and compassion meditation is proposed. The limitations of Zhiyi's method and the future directions for empirical research on Zhiyi's method are also discussed.

Zhiyi's Imagination-Based Meditation

In the *Explanation of the Sequential Path of Dhyāna Pāramitā* dictated by Zhiyi, Zhiyi gives a detailed description of four imagination-based immeasurable meditations (Brahma-viharas). The four immeasurable meditations are primary sources of loving-kindness and compassion meditation practices found in psychological research. The four immeasurable meditations include (1) loving-kindness (Pali: *Mettā*), (2) compassion (Pali: *Karuṇā*), (3) sympathetic joy (Pali: *Muditā*), and (4) equanimity (Pali: *Upekkhā*). The essential operation in the practice of imagination-based four immeasurable meditations described by Zhiyi is imagination.

Zhiyi's description of the practice of imagination-based loving-kindness meditation is as follows:

Practitioners imagine a situation with a pure mind in which a loved one (such as parent and brother) gains pleasure. Then, practitioners choose the one they love the most to imagine a situation and focus their attention on that. If there are distracting thoughts, turning attention away from distractors and back to the situation will make the imaginary situation vivid and unambiguous. Practitioners see the situation in which their favorite person gains pleasure, which makes them generate loving-kindness. Then, they can try choosing a stranger, a hated one, and even all beings as the object of their imagination.

(T 1916: 復次行者初修時用念清淨心。取外所愛親人受樂之相。若父母兄弟隨取一最愛者。一心緣之。若有異念攝之令還。令於心想的的分明見於親人受樂之相。其心愛念乃至中人怨人餘五道亦如是).

Zhiyi's description of the practice of imagination-based compassion meditation is as follows:

Practitioners enter a trance and imagine a vivid and unambiguous situation in which a loved one is suffering. Practitioners will generate compassion and want to offer assistance when they see that the loved one is suffering. Then, they can try choosing a stranger, a hated one, and even all beings as the object of their imagination.

(T 1916: 用定念淨心先取一所愛親人受苦之相。繫心緣之。若有異念攝之令還。令於心想的的分明。其心憐愍悲念無極。如是乃至中怨憎一方乃至十方一道乃至五道亦如是).

Zhiyi's description of the practice of imagination-based sympathetic joy meditation is as follows:

Practitioners imagine a situation with a pure mind in which a loved one is free from suffering and gains pleasure. They concentrate on it to make the imaginary situation vivid and unambiguous. Practitioners see their loved one free from suffering and gaining pleasure, which makes them generate sympathetic joy. Then, then can try choosing a stranger, a hated one, and even all beings as the object of their imagination.

(T 1916: 用念清淨心。取於親人。從苦得脫受樂歡喜相。一心觀之令於念心的的分明。見於親人受歡樂相其心悅豫欣慶無量。次緣中人怨人乃至十方五道眾生受喜之相心生慶悅).

Zhiyi's description of the practice of imagination-based equanimity meditation is as follows:

Practitioners enter a trance and imagine a situation with a pure mind in which a loved one has no suffering and pleasure andfocuses on that. If there are distracting thoughts, turning attention away from distractors and back to the situation will makethe imaginary situation vivid and unambiguous. Then, strangers, hated ones, and even all beings can be chosen as the objectof imagination.

(T 1916: 即入禪定用念清淨心。取於親人受不苦不樂之相一心緣之。若有異念攝之令還。令於心想的的分明。見於前人受不苦不樂。如是次第緣中人怨人十方五道一切眾生。)

Generating loving-kindness by imagining situations of giving pleasure to others is just a method for practitioners to gainmoksha. However, in reality, the person imagined by the practitioner does not gain pleasure. If the practitioner thinks theimagination is real, then it is a reversal of the fact.

(T 1916: 復次慈心與樂但是得解。然諸眾生實不得樂。若以爲實即是顛倒。)

Although I am compassionate to all beings, I do not give them real benefits. Now I should give up loving-kindness,compassion, and sympathetic joy meditation. I should do all kinds of good things to bring real benefits to all beings.

(T 1916: 復次我雖慈悲愛念。於彼無益。今當捨此三心行諸善法實利眾生。)

Therefore, the operational definition of Zhiyi's imagination-based meditation is that the participant chooses a person as the object of imagination. Then, the participant imagines a situation in regard to four specific topics: loving-kindness, compassion, sympathetic joy, and equanimity. The person the participant chooses first is a loved one, then a neutral person, then a difficult person, and finally all beings. (1) During loving-kindness meditation, the participant should imagine a situation in which the selected individual gains pleasure. (2) During compassion meditation, the participant should imagine a situation in which the selected individual is suffering. (3) During sympathetic joy meditation, the participant should imagine a situation in which the individual chosen is free from suffering and gains pleasure. (4) During equanimity meditation, the participant should imagine a situation in which the individual chosen has no suffering or pleasure. The equanimity meditation proposed by Zhiyi is more like a guideline than a practice method. The purpose of equanimity meditation practice is to prevent the practitioner from indulging in the imagination of loving-kindness, compassion, and sympathetic joy meditation.

Loving-Kindness and Compassion Meditation in Theravada Buddhism and the Method of Zhiyi

There are five primary methods of arousing loving-kindness in Theravada Buddhism: being present, reflection, aspiration, recitation, and the free association method (Sujiva, 2007).

Being Present

The first method is "being present." The practitioner imagines that a person is very close to him or her until he or she senses the person's presence. The practitioner can practice this by visualization, which means seeing the person with one's inner eyes (at the mind-door/sense), just as if one's eyes are open. The person visualized by the practitioner is usually the one he or she loves, and the practitioner may arouse his or

her loving-kindness through the relevant information of the loved one (Sujiva, 2007, p. 42).

This method involves imagining a person, as does Zhiyi's method; in fact, most methods of loving-kindness meditation involve imagining a person. Zhiyi's method is to imagine the person in a specific situation, not to only imagine the person's existence. It is possible that imagining the presence of a loved one can arouse one's loving-kindness to some extent. However, most psychological research does not use this method alone but rather uses this method as the first step of loving-kindness meditation. In many studies, the participants first visualize a loved one and then send their love to that person (Carson et al., 2005; Hutcherson et al., 2008; May et al., 2011).

In addition to visualizing the person, saying the person's name to oneself, recalling the different ways in which the person has helped the practitioner, and recalling the goodness within the person may also arouse loving-kindness (Salzberg, 1995, p. 58). This method can be referred to when designing mental training according to Zhiyi's method. Before imagining the loved one in a specific situation, the practitioner can visualize the loved one first, which may increase the level of loving-kindness.

Reflection

The second method is "reflection." The practitioner can arouse loving-kindness by thinking about the good events in which he or she has participated, such as receiving gifts during birthdays, counseling in one's career, and giving help in times of stress. The practitioner can also think about his or her virtues, such as compassion, wisdom, and humility, to arouse loving-kindness (Sujiva, 2007, p. 44). Barnhofer et al. (2010), for example, instructed participants to think about a sound quality that they had or a good thing that they had done to arouse loving-kindness. If nothing came to mind, they were instructed to think of their wish to be happy. Then, these participants were asked to direct loving-kindness by silently repeating phrases. This method is different from Zhiyi's method. In the method used by Barnhofer et al. (2010), some participants may have difficulty thinking of the good things they have done or their good qualities and may only arouse loving-kindness by thinking about their wish to be happy. Each participant has different experiences and evaluates himself or herself differently. Thinking about information related to oneself may cause excessive differences between participants. If this method were used alone in a study, it would be challenging to ensure that the participants received the same mental training.

Aspiration

The third method is "aspiration." This method has been used in many psychological studies. Traditionally, practitioners make use of four aspirations toward the person they visualize (Sujiva, 2007, p. 46). The four aspirations are as follows: (1) "May you be safe from dangers (Avera Hontu)." (2) "May you be peaceful, free from

mental suffering (Abyapajja Hontu)." (3) "May you be healthy, free from physical suffering (Anigha Hontu)." (4) "May you take care and live happily (Sukhi attanam pariharantu)."

In psychological studies, loving-kindness meditation generally visualizes an individual with a neutral emotional status and blesses the individual to be happy with phrases such as "May you be happy" or "May you be successful." Compassion meditation generally visualizes an individual in regard to suffering and negative emotions and blesses the individual away from suffering with phrases such as "May you free from suffering" or "May you become happy" (Salzberg, 1995; Zeng et al., 2017). When sending loving-kindness, the force or energy that one perceives can even be visualized as a form of light (Sujiva, 2007, p. 51). The people one visualizes generally begin with oneself, then move on to a loved one, a neutral person, a difficult person, and eventually extends to all beings (Goldin & Jazaieri, 2017).

According to *The Path of Purification* (Buddhaghosa, 2010, p. 292-293), practitioners should first send loving-kindness to themselves:

> First of all, it should be developed only toward oneself, doing it repeatedly thus: "May I be happy and freefrom suffering" or "May I keep myself free from enmity, affliction and anxiety and live happily".
>
> Because that refers to absorption. But this [initial development toward oneself] refers to [makingoneself] an example. For even if he developed loving-kindness for a hundred or a thousand years in thisway, "I am happy" and so on, absorption would never arise. But if he develops it in this way: "I am happy. Just as I want to be happy and dread pain, as I want to live and not to die, so do other beings, too," makinghimself the example, then desire for other beings' welfare and happiness arises in him (English Translationby Bhikkhu Ñáṇa moli).

The practitioner first sends loving-kindness to himself or herself, experiences this happiness as an example, and then imagines that others want to be as happy as himself or herself; that is, he or she transfers this feeling and attitude to others through empathy. Therefore, participants need to have a scientific understanding of empathy when using this method (Kristeller & Johnson, 2005; Goldin & Jazaieri, 2017). There are also many studies that begin by visualizing a loved one, especially those that use the "being present" method (Carson et al., 2005; Hutcherson et al., 2008; May et al., 2011).

Zhiyi also discussed this method in the *Explanation of the Sequential Path of Dhyāna Pāramitā*:

If practitioners want to enter a trance, they need to bless it first: "May all beings be happy, and may I be able to see their happiness in a trance." This method is called "cetasika." At this time, all kinds of body karma, mouth karma, and all the movements of the mind belong to the harmony of dharmas. They can all be called "Mettā" because these methods are all based on "Mettā." All these methods are acquired; however, only "thinking" is the most significant. During meditation, only "thinking" has the strongest power. "Thinking" is the mental phenomenon during Mettā meditation.

(T 1916: 欲入禪定當先作誓願。一切眾生悉受快樂。我於定中悉得見。
受想行識。是名心數法。諸身業口業及心不相應諸行是法和合。皆名為
慈。是法皆以慈為主故。慈得名。譬如一切心數法皆是後世因緣。而但
思得名。於作業中思最有力故。是名慈相應相).

"Thinking" in Buddhism refers to all mental actions or contents. Visualization and imagination belong to the category of "thinking." Zhiyi considers that blessings are only the first step of meditation and that imagination and contemplation after entering a trance are essential mental operations during Mettā meditation. In other words, Zhiyi believes that imagination is more effective than blessings during meditation.

Recitation

The fourth method is "recitation." The practitioner can recite the four aspirations during loving-kindness meditation. The practitioner holds in his or her mind the words that are recited to help keep the mind from wandering, while understanding their meaning produces distinct mental qualities (Sujiva, 2007, p. 45). This method is often done as a first step toward concentration and should be derived from holding a mantra.

In many studies, participants have been asked to repeat specific sentences to make aspirations. If participants repeat these short phrases mechanically without genuinely blessing others, then the method of "aspiration" becomes the method of "recitation," which is more like repeating a mantra, i.e., a bottom-up behavioral operation. In this case, the effect of arousing loving-kindness will be significantly reduced. If the participants do not understand the meaning of these abstract sentences, then this behavioral operation may only help focus their attention. Participants may have difficulty generating attitudes of loving-kindness and compassion toward themselves or others if they recite without understanding.

Free Association Method

The fifth method is the "free association method." The practitioner imagines situations that happened in the past or may happen in the future to arouse loving-kindness. The practitioner can imagine any situation that arouses loving-kindness. There can be many people involved in a period of free association, but when the mood is present, the number can be narrowed to one person (Sujiva, 2007, p. 44-45).

This method is very similar to Zhiyi's method, as they both arouse loving-kindness by imagining situations. Zhiyi's method has strict limitations on imagination content, while the free association method does not have such limitations. Sujiva (2007) argued that when using the free association method, one has to control his or her thinking to permit the flow of loving-kindness. Otherwise, thinking can result in much restlessness, and thoughts can wander off to dwell on sensual cravings or even anger and sadness. However, Sujiva (2007) did not specify how to control it, and Zhiyi's method supplements this method.

The practitioners imagining their chosen person in a specific situation is related to how to control their thinking. Zhiyi's method can be seen as a free association method that limits the content of imagination, and the restricted content can be seen as imagining the content of the blessing. Zhiyi's method combines the method of "aspiration" and the "free association method." Practitioners must understand the content of the blessing to be able to imagine the corresponding situation, thus eliminating the possibility of participants mechanically reciting a blessing they do not understand. Therefore, Zhiyi's loving-kindness meditation replaces blessings such as "May you be happy" with a situation in which a person gains pleasure, and Zhiyi's compassion and sympathetic joy meditation replaces blessings such as "May you free from suffering" or "May you become happy" with a situation in which a person is free from suffering and gains pleasure. Compared to blessing others, imagining blessings' content is more concrete and vivid and requires practitioners to perform more top-down mental operations. Mental operations such as imagination affect mental processes more directly than behavioral operations such as repeating a mantra. In addition, imagining the realization of blessings allows practitioners to intuitively visualize the good results of helping others. All these factors make it easier to generate loving-kindness and compassion.

A functional magnetic resonance (fMRI) study (Garrison et al., 2014) found that meditators showed less intrinsic connectivity distribution (ICD) than novices overall during loving-kindness meditation and in clusters including the bilateral inferior frontal gyrus (IFG). One possible interpretation of this result is that novices rely more on language processing, while meditators rely more on imagination during loving-kindness, given that the left IFG is considered the neuroanatomical basis of inner speech (McGuire et al., 1996; Morin & Michaud, 2007). Given that meditators perform better than novices during loving-kindness meditation, imagining situations may be more likely to generate loving-kindness than repeating sentences.

Sujiva (2007) argued that some practitioners feel that the traditional and systematic manner is artificial and challenging to arousing loving-kindness, whereas the free association method arouses loving-kindness more naturally and spontaneously. This may be because practitioners may not find that the purpose of imagination is the same as blessing others when constructing an imaginary situation. In this process, loving-kindness and compassion are generated unconsciously rather than consciously, thus shifting one's feelings and attitudes toward others. Therefore, imagination may be more effective in generating loving-kindness and compassion toward practitioners' enemies or hated ones.

Loving-Kindness and Compassion Meditation in Tibetan Buddhism and the Method of Zhiyi

One of the most common CM/LKM techniques employed in clinical psychotherapy (e.g., cognitive-based compassion training, compassion cultivation training) is derived from Tibetan lojong (meaning mind training) Buddhist teachings (Shonin et al., 2015). The lojong teachings include instructions on a meditation technique

known as the tonglen method (meaning giving and taking or sending and receiving). The tonglen method involves synchronizing the visualization practice of taking others' suffering (i.e., compassion) and giving one's own happiness (i.e., loving-kindness) with the in-breath and out-breath, respectively (Shonin et al., 2015).

Arousing of Loving-kindness

The practitioner recreates and almost visualizes a love that someone gave to him or her that moved him or her. It is best to remember a particular instance when someone showed the practitioner love and in which the practitioner vividly felt someone's love. If the practitioner infuses him or herself with gratitude, their love will go out naturally to that person who evoked it. Then, the practitioner extends this love to a loved one, a neutral person, a difficult person, and eventually to all beings (Sogyal Rinpoche, 2002, p. 199).

The focus of the tonglen method is on exchange, and the content of imagination is based on the loving-kindness that others have given to the practitioner. Then, the practitioner sends this loving-kindness back to the person who gave him or her loving-kindness in the same way. Zhiyi's method does not involve such an exchange but directly imagines the happy situation of others to arouse loving-kindness. Compared to Zhiyi's method, the tonglen method may require more empathy from the practitioner.

Arousing of Compassion

There are some methods used to arouse compassion: (1) thinking of others as the same as oneself, (2) imagining oneself suffering the same pain as others, (3) imagining that one of the practitioners' best friends is suffering, and (4) imagining any sight of suffering that the practitioner sees in his or her life (Sogyal Rinpoche, 2002, p. 200-204).

Zhiyi's compassion meditation is consistent with the third method, which involves imagining a person suffering to generate compassion. The difference between the two methods is how the practitioner helps the person be free from suffering and gain happiness, that is, the difference between the tonglen method and Zhiyi's method is based on sympathetic joy meditation operations.

The Operations of Tonglen

The tonglen method has four stages: environmental tonglen, self tonglen, tonglen in a living situation, and tonglen for others.

At the "environmental tonglen" stage, as practitioners breathe in, they imagine absorbing an uneasy mood, dark atmosphere, and all other unwholesome things; as practitioners breathe out, they imagine giving out calm, clarity, and joy to purify
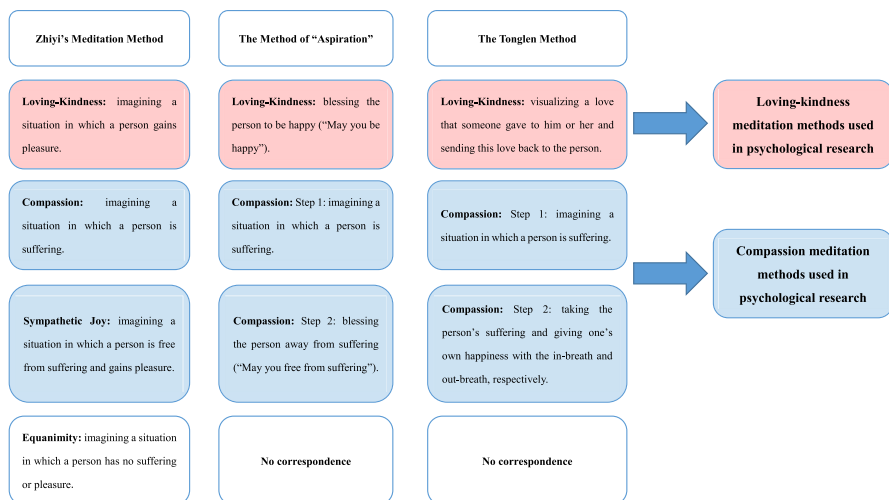
Fig. 1 The components of Zhiyi's meditation method and the correspondence with the components of the "aspiration" method and the tonglen method. The red part corresponds to loving-kindness meditation methods used in psychological research, and the blue part corresponds to compassion meditation methods used in psychological research.

and heal the atmosphere and environment of their mind (Sogyal Rinpoche, 2002, p. 207).

At the "self tonglen" stage, the practitioners divide themselves into two aspects, A and B. As the practitioners breathe in, they imagine that A accepts and embraces all of B's suffering and pain; as the practitioners breathe out, they imagine A sending out to B all of his or her happiness and joy (Sogyal Rinpoche, 2002, p. 207-208).

At the "tonglen in a living situation" stage, the practitioners imagine a situation where they have done something wrong and feel guilty about it. Then, as the practitioners breathe in, they imagine breathing in blame and responsibility; as the practitioners breathe out, they imagine breathing out healing, forgiveness, and reconciliation (Sogyal Rinpoche, 2002, p. 208).

At the "tonglen for others" stage, the practitioners imagine someone they love is suffering and in pain. As the practitioners breathe in, they imagine themselves taking in all the loved one's suffering and pain with compassion; as the practitioners breathe out, they imagine themselves sending warmth, healing, love, joy, and happiness streaming out to the loved one. Then, the practitioners imagine a neutral person, a difficult person, and then all beings to gradually widen their circle of compassion (Sogyal Rinpoche, 2002, p. 208-209) (Fig. 1).

The operations of the tonglen method combine breathing and imagination. At the "tonglen for others" stage, practitioners imagine the pain and happiness of others as two kinds of gas; they help others become free from suffering and gain pleasure by inhaling the gas of pain and exhaling the gas of pleasure. Combining breathing and imagination can exploit the advantages of breathing meditation, and practitioners can better focus their attention. However, the way to be free

from suffering and to gain happiness through breathing is far from daily life; it is a supernatural power. Practitioners do not have the ability to relieve others' suffering through their own inhalation and exhalation in real life. Some practitioners may have difficulty believing that they can help others through their breathing.

The operation of Zhiyi's sympathetic joy meditation is to imagine a situation in which others are free from suffering and attain happiness. This is not only to help others through breathing; the imagined situation can be very close to daily life. For example, imagining a starving person can be helped by imagining giving them food or by imagining giving them donations. These are all things that ordinary people can do in their daily lives. Therefore, Zhiyi's method may be more suitable for ordinary participants without religious beliefs. The focus of the tonglen method is on the exchange between the self and others during breathing. In addition to imagining the process of helping others, Zhiyi's method also imagines the person's reaction after receiving the help, that is, the result of the help. The situation in which the person gains pleasure is positive feedback, and such positive feedback can increase the practitioner's motivation to help others, thus increasing the person's goodwill.

Psychologization of Zhiyi's Meditation Method

Zhiyi's imagination-based meditation is similar to guided imagery in psychological research. During guided imagery, participants usually need to be guided to visualize scenes to relax, such as visualizing beautiful scenery. However, Zhiyi's imagination-based meditation usually requires practitioners to imagine events based on four different topics (loving-kindness, compassion, sympathetic joy, and equanimity). For example, during Zhiyi's imagination-based loving-kindness meditation practice, practitioners need to imagine what pleasure their loved one gains and how he or she gains this pleasure. The situation that practitioners imagine is not only a scene but also an event with both antecedents and consequences. Therefore, Zhiyi's imagination-based meditation is more complicated than guided imagery.

Participants can imagine any situation on a specific topic; thus, the situation they imagine needs to be recorded to determine whether it belongs to this topic. A better method to control variables is to provide arranged situations for participants to imagine, such as guided imagery. In a guided imagery session, the participant is guided through a guided imagery script. The script guides the participant to imagine places where they can feel calm and relaxed (Roffe et al., 2005). In future psychological research on Zhiyi's imagination-based meditation, the experimenter could provide scripts or recordings of spoken scripts to describe the arranged situations and ask the participant to combine the selected individual and the described situation through imagination.

In the *Treatise on the Great Perfection of Wisdom*, "Mettā" (loving-kindness) meditation, "Karuṇā" (compassion) meditation, and "Muditā" (sympathetic joy) meditation are described as imaginations based on memories:

Practitioners practice Mettā meditation to make all beings happy, but it cannot make all beings happy. Practitioners practice Karuṇā meditation to release all beings from suffering, but it cannot release all beings from suffering. Practitioners practice Muditā meditation to make all beings joy, but it cannot make all beings joy. These are imagination based on memories, not real events.

(T 1509: 慈心欲令眾生樂, 而不能令得樂; 悲心欲令眾生離苦, 亦不能令得離苦; 行喜心時, 亦不能令眾生得大喜。此但憶想, 未有實事).

When imagining through the guidance of a script, the participants will first visualize the objects mentioned in the script based on memories and then recreate these visualized objects. The problem with this method is that participants may not have enough relevant memories to provide material to imagine. Therefore, the experimenter may be able to provide pictures or videos as material to help the participants imagine. Participants first watch pictures or videos on related topics. Then, participants combine the selected individual with the previous pictures or videos to imagine the situation. For example, before Zhiyi's imagination-based loving-kindness meditation, participants could watch a video of a person eating delicious food and feeling happy. Then, the participants could imagine a situation in which their loved ones were eating delicious food and feeling happy, as the previous video presented. Providing arranged materials to help participants imagine can reduce the difficulty of imagining, and presenting the same materials to each participant can better control an experiment. Topics such as gaining pleasure are too abstract and include too many things, and participants may not know what they should do. Providing the same arranged materials can standardize imagination-based meditation training, similar to providing specific blessing phrases in loving-kindness meditation in psychological research (Salzberg, 1995).

Effects of Zhiyi's Meditation Method

In *The Essentials of Buddhist Meditation* (Shramana, 2009b), Zhiyi described the purpose of practicing loving-kindness meditation as follows:

The first is counteractive insight. It is exemplified by the contemplation involving the mind of loving-kindness aimed at counteracting hatred (Pali: dosa) (English Translation by Bhikshu Dharmamitra).

(T 1915: 一者、對治觀: 如慈心觀對治瞋恚).

Moreover, in *The Six Dharma Gates to the Sublime* (Shramana, 2009a), Zhiyi described the effect of four immeasurable meditations as follows:

When one is sitting in dhyāna meditation, it may be that the affliction of hatred (Pali: Dosa) arises. At such a time, the practitioner should resort to the gate of "contemplation of mind," engaging in the contemplations of loving-kindness, compassion, sympathetic joy, equanimity, and so forth. These are the

appropriate counteractive techniques in such circumstances (English Translation by Bhikshu Dharmamitra).

(T 1917: 于坐禪中。嗔恚煩惱障起。爾時行者。當用觀心門中慈悲喜捨等。爲對治也).

"Dosa" can be explained as hatred or anger arising from a hatred of something. According to Zhiyi, practicing Mettā or the four immeasurable meditations can eliminate this hatred and anger, which suggests that practicing imagination-based loving-kindness and compassion meditation can enhance a practitioner's kindness to others and improve a practitioner's emotion regulation ability, especially the regulation of anger. These effects are consistent with those produced by LKM and CM in psychological research (e.g., Fredrickson et al., 2008; Hutcherson et al., 2008).

Zhiyi's method limits the content of imagination during meditation, thereby allowing the practitioner to control his or her mind better and to not arouse feelings other than loving-kindness and compassion, which can be seen as an essential supplement to Sujiva's free association method. In addition, Zhiyi's method of helping others be free from suffering and gain happiness entirely through imagination is different from the tonglen method of helping others through inhalation and exhalation, which better focuses the practitioner's attention through breathing. In contrast, Zhiyi's method more closely represents a practitioner's daily life. The differences between Zhiyi's method and other methods in terms of effects and applicable populations need to be examined in future studies.

Limitations

There are some limitations to Zhiyi's meditation method. First, Zhiyi's method may be more challenging to learn than the meditation methods from Theravada Buddhism. Compared to other meditation methods from Theravada Buddhism, the "free association method" is more challenging to learn. Zhiyi's meditation method is more demanding than the "free association method" and may be more challenging to learn than the "free association method." The bottom-up behavioral operation of repeating the blessing sentences in the "aspiration" and "recitation" method may be more operational, while the top-down mental operation of visualization and imagination in Zhiyi's method may be more abstract and complicated. Garrison et al. (2014) also found that novices rely more on language processing than imagination during loving-kindness meditation.

The "being present" method involves visualizing a person, and the method of "reflection" involves recalling events. Both methods involve the mental operation of visualization and imagination. The "free association method" involves imagining situations that may happen in the future to arouse loving-kindness, which requires the practitioner to recreate the content of the visualization. The "free association method" requires more recreation of visualized and imagined content than both the method of "being present" and the method of "reflection" and thus may be relatively more challenging to learn. Zhiyi's method requires the

practitioner to recreate the visualized content, control his or her thinking, and recreate the specified situation, which is more complicated than the "free association method." Therefore, a novice practitioner may have difficulty completing these abstract and complicated mental operations at the beginning of the practice, resulting in the inability to imagine the situation that needs to be imagined. Zhiyi's method may require more practice for novices, and future research should examine whether higher learning costs may allow participants to achieve better training outcomes.

Second, Zhiyi's method is inferior to the tonglen method in keeping the practitioner's attention focused. The operations of the tonglen method combine breathing and imagination, and the practitioner's operation of sustained attention to the breath in the tonglen method can be seen as a form of focused attention (FA) meditation. Previous studies have shown that FA meditation can improve self-regulation processes, including the deployment of sustained and selective attention (Tang & Posner, 2009; Lutz et al., 2008b; Chiesa et al., 2010; Ziegler et al., 2019). Therefore, the practice of FA meditation may improve the practitioner's concentration that will allow imagining the situation.

However, Zhiyi's method involves more abstract and complicated mental operations. Therefore, when practicing Zhiyi's method, practitioners are likely to experience more mind wandering and, thus, will be unable to successfully complete meditation practice. One possible solution is to arrange for the practitioner to practice FA meditation before practicing Zhiyi's method. There have also been previous studies that arranged the first part of the training as FA meditation. For example, the first four weeks of mindfulness-based cognitive therapy (MBCT) training are mainly FA meditation, and the last four weeks are mainly open monitoring (OM) meditation (Williams & Penman, 2011; Zhou & Liu, 2017). This solution will increase the learning cost for the practitioner to learn Zhiyi's method. Whether the higher learning cost of Zhiyi's method allows participants to achieve better training effects or other effects will be examined in future empirical studies.

Future Directions

The effectiveness of Zhiyi's meditation method has not been scientifically validated. Future research can refer to previous empirical studies examining loving-kindness, compassion, and mindfulness meditation to evaluate the effectiveness of Zhiyi's meditation method. These studies have provided many experimental paradigms and indicators. In future empirical studies of Zhiyi's method, the experimenter could replace the meditation methods in previous studies with Zhiyi's method. Using the same experimental paradigm and indicators would also allow a better comparison of the effects of different meditation methods.

For example, the effect of Zhiyi's method on participants' emotions can be examined by assessing participants' electroencephalography (EEG) prefrontal alpha asymmetry before and after practicing Zhiyi's method. EEG prefrontal alpha asymmetry is a global indicator of approach versus withdrawal motivation and related

affective state (Barnhofer et al., 2010). This neural indicator has been used to assess the effects of short-term and long-term meditation practice. Barnhofer et al. (2010) assessed EEG prefrontal alpha asymmetry in two groups of previously depressed individuals before and after practicing 15 minutes of loving-kindness meditation versus mindfulness breathing meditation. The methods of loving-kindness meditation practiced by the participants in this study were "reflection" and "aspiration." Zhou & Liu (2017) assessed EEG prefrontal alpha asymmetry before and after eight weeks of MBCT practice and suggested that frontal EEG asymmetry during an emotional challenge may be an index of affective style.

In addition, the effect of Zhiyi's method on participants' kindness to others can be found in the experimental design of Lutz et al. (2008a). Lutz et al. (2008a) assessed brain activity using fMRI, while novice and expert meditation practitioners were presented emotional and neutral sounds during loving-kindness compassion meditation and comparison periods. The insula and cingulate cortex were more activated in response to emotional sounds during compassion meditation than during resting. During meditation, activation in the insula was more significant during the presentation of negative sounds in experts than in novice meditators. These data suggested that loving-kindness and compassion meditation enhance participants' empathy. The meditation method practiced by the participants in this study was derived from Tibetan Buddhism. In future studies, the experimenter could replace this meditation method with Zhiyi's method and use the same experimental design to present participants with emotional sounds while using fMRI to assess brain activity. The activation of brain regions such as the insula and cingulate cortex could be used as neural indicators to examine the effect of Zhiyi's method.

In addition to the above neural indicators, the experimenter can also use scales and questionnaires, such as the Modified Differential Emotions Scale (mDES; Fredrickson et al. 2003; Fredrickson et al. 2008) and the Positive Affect Negative Affect Schedule (PANAS; Watson et al. 1988; May et al., 2011) to measure the psychological traits of the participants before and after practicing Zhiyi's method. In conclusion, measuring physiological and psychological indicators of the participants before and after practicing Zhiyi's method and examining the effects of Zhiyi's method based on changes in these indicators is an important direction for future empirical studies of Zhiyi's meditation method.

Data Availability Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.

Declarations

Conflict of interest The authors declare no conflicts of interests.

Ethical Approval All procedures performed in the current study were reviewed and approved by Ethics Board of the Nanjing Normal University.

Informed Condent Informed consent was obtained from all individual participants included in the study.

Consent for Participation The participant has consented to the submission of the case report to the journal.

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