A Randomized Controlled Trial Examining a Second-Generation Mindfulness-Based Intervention that is Compatible with Confucian Values: Mindfulness-Based Positive Psychology

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Abstract

Objectives Second-generation mindfulness-based interventions (SG-MBIs) have emphasized the cultivation of ethics. However, some ethics and values that are emphasized in SG-MBIs are criticized by Confucianism, one of the most influential traditions in China. The current study developed a new SG-MBI called mindfulness-based positive psychology (MBPP) that emphasized value clarification and integrated Confucian values. The acceptability and effects of this intervention were evaluated among Chinese people in mainland China.

Methods A total of 138 healthy Chinese adults from universities and communities were randomly assigned to the MBPP or waitlist condition. Consistent with the "relief," "promotion," and "transcendence" modules in MBPP, variables representing negative symptoms (depression, anxiety, and stress), positive traits (gratitude and appreciative joy), and spirituality (meaning of life) were measured before and after the 6-week intervention and 3 months after the intervention. The amount of meditation practice and ratings for MBPP and different themes were also measured.

Results Compared to the waitlist condition, MBPP significantly reduced anxiety and stress with low to medium effect sizes but not other measures. The amount of meditation practice during the intervention was significantly associated with changes in appreciative joy and gratitude. Participants rated the MBPP and themes highly, and themes in the "transcendence" module received significantly lower ratings than other themes.

Conclusions MBPP is a feasible and promising SG-MBI for promoting mental health among Chinese. Future studies should further evaluate the acceptability and effects of the new components of SG-MBIs and develop suitable measurements for those idealistic mentalities proposed by Buddhism and other traditions.

Keywords Four immeasurables · Loving-kindness · Philosophy · Idealistic psychology · Randomized controlled trial · Ethics

Based on mindfulness meditation in Buddhism, a series of mindfulness-based interventions (MBIs) have been developed. The earlier application of MBIs focused on the treatment of mental disorders and underlying mechanisms, and many studies have supported the effectiveness of MBIs in treating a wide range of mental disorders (Wielgosz et al., 2019). MBIs were further applied among healthy people, and the purposes included not only the reduction of negative symptoms but also the enhancement of happiness and performance (Lomas et al., 2019).

Additionally, the components of MBIs have also expanded. Earlier MBIs were criticized for extracting mindfulness meditation from the entire Buddhist system and ignoring the cultivation of ethics. Therefore, some new MBIs integrating more Buddhist components were developed and further conceptualized as second-generation mindfulness-based interventions (SG-MBIs; Van Gordon et al., 2015). SG-MBIs adopted more Buddhist meditations, such as four immeasurable meditations (FIMs) and emptiness meditations, than earlier or "first generation" MBIs and often discussed a wide range of Buddhist ideas, such as emptiness and the three poisons (e.g., Singh et al., 2014; Van Gordon et al., 2014). With these

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meditations and discussions, SG-MBIs explicitly promote Buddhist ethics, and some SG-MBIs further emphasize that the interventions are intended to cultivate a lifestyle rather than mental skills alone (Van Gordon et al., 2015; Van Gordon & Shonin, 2020).

Empirical studies on the effects of SG-MBIs and their elements are still at an early stage. As an early SG-MBI, meditation awareness training (MAT) showed its effectiveness among various samples in a series of studies (e.g., Shonin et al., 2014; Van Gordon et al., 2017). Mindfulness-based positive behavior supports (MBPBS), as another SG-MBI, also showed beneficial effects among caregivers and other samples (e.g., Singh et al., 2016; Singh et al., 2020). The ideas of existing SG-MBIs have been widely accepted, and several new SG-MBIs were developed in recent years. There are still very few empirical studies on those new SG-MBIs, but evidence supports their promising effects (e.g., Monteiro et al., 2019; Pizarro et al., 2020). Among the new elements included in SG-MBIs, FIMs have been one of the most widely used (Van Gordon & Shonin, 2020), and it has received increasing empirical attention to date (Galante et al., 2014). In brief, FIMs aim to cultivate wholesome attitudes (loving-kindness, compassion, appreciative joy, and equanimity). Usually, practitioners generate those attitudes towards imagined targets (e.g., a friend) by silently repeating phrases like "may you be happy" or imaging golden light from one's heart to the targets (Zeng et al., 2017a). A series of studies have supported that FIMs can improve attitudes towards the self and others, generate positive emotions, and reduce depressive symptoms (e.g., Lv et al., 2020; Zeng et al., 2015). In contrast, there are fewer studies on other elements, such as emptiness meditation (Van Gordon et al., 2019) and the explicit cultivation of ethics (e.g., Bayot et al., 2020; Chen & Jordan, 2020) although initial evidence also supports the benefits of these elements. Furthermore, because SG-MBIs often integrate many elements, how different elements contribute to the effects of an entire intervention also requires further study.

While SG-MBIs have shown promising effects, some scholars have criticized that the integration of Buddhist components involves ethical problems and cultural conflict. Before the rise of SG-MBIs, scholars had questioned whether ideas such as impermanence and non-self in first-generation MBIs delivered Buddhist metaphysics, which represent truths for Buddhists but not necessarily for others (Harrington & Pickles, 2009; Zeng et al., 2012). Davis (2015) pointed out that the ethics emphasized in MBIs are not necessarily the best ethics, and it violates the "value-free" principle when MBIs require participants to accept them.

More specifically, some values delivered in SG-MBIs may conflict with Confucianism, which is one of the most influential traditions in China and other East Asian countries. For example, while both Confucianism and Buddhism emphasize the cultivation of kindness, the principles of kindness are different. Four

immeasurables in Buddhism emphasized equal kindness for all beings (Anālayo, 2019). In contrast, Confucians endorsed a hierarchical order of benevolence, namely, that one should love his or her parents more than strangers, as they believed that this is consistent with human-nature and important for social order (Li, 2020). Regarding SG-MBIs, many interventions adopted FIMs and cultivated four immeasurables in the process. Although full details of the interventions are not available, at least some SG-MBIs clearly developed compassion for all beings (e.g., Jazaieri et al., 2013). In the procedure of developing compassion for all beings, it inevitably involved the question of whether one should cultivate the same kind and amount of love for different targets.

Another conflict between SG-MBIs and Confucian value is relevant to the intrinsic values of behaviors. Confucianism endorses the intrinsic value of benevolence and emphasizes prosocial behaviors for their own sake, which are similar to virtue ethics (in contrast to utilitarian ethics) and the eudaimonia tradition (in contrast to the hedonic tradition) in Western philosophy. Therefore, ancient Confucians criticized Buddhist theory for its utilitarian and hedonic nature, such as Buddhist emphasis on the benefits of compassion and the ultimate goal of ceasing suffering, which are explicitly attributed to some secular FIMs interventions today (e.g., Pace et al., 2009). As another example, mindfulness emphasized a principle of balance between acceptance and change, which means to change what is changeable and to accept what cannot be changed rather than persisting in useless efforts (e.g., Hayes et al., 1999). While such a principle may benefit mental health, it is based on a perspective of consequentialism in terms of philosophy (Keown, 1996), as it guides actions according to consequences (i.e., successful change). In contrast, Confucianism emphasizes intrinsic values and thus endorses some persistence even though such persistence cannot achieve the goals or success, which is best illustrated by Confucius who is famous for doing things that he knew were impossible (Cui, 2009).

Notably, scholars emphasized MBIs as secular interventions that did not require religious beliefs and that SG-MBIs taught ethics in secular form (e.g., Shonin et al., 2014). In the examples above, values such as equal love and balance between acceptance and change in SG-MBIs are consistent with Buddhist values, and they can be labeled as secular values since they do not require belief in Buddhism. However, regardless of whether they are labeled as Buddhist values or secular values, they are not universally acceptable in all cultures. Of note, it is not surprising that certain values and ethics are not universal, and examples of balance between acceptance and change showed that an intervention inevitably involved some value judgments. Therefore, cultivation of non-universal ethics in SG-MBI is not a problem, but it is necessary to provide value clarification, namely, to clarify those implicit value judgments and to acknowledge that those value judgments are not necessarily the best choice. Such value

clarification ensures that participants could make their own choice of value and respects other traditions, and it is especially important when SG-MBIs are applied in context such as in Confucian culture where alternative values are emphasized.

As a new trend in the development of MBIs, SG-MBIs have been developed and evaluated in Western cultures. Considering that Confucianism is very influential in Chinese culture, integrating Confucian values into SG-MBIs is beneficial for clarifying values and solving cultural conflicts when applying SG-MBIs in China. Therefore, the current study developed an SG-MBI that integrates Confucian values, called "mindfulness-based positive psychology" (MBPP), and evaluated its acceptability and effects in a randomized controlled trial (RCT) with waitlist conditions among Chinese people. Because MBPP aims to reduce negative symptoms, promote positive traits, and develop spirituality with its three modules (see the "Methods" section for details), the corresponding hypothesis was that the MBPP group will have significant improvements in negative symptoms (anxiety, depression, stress), positive traits (gratitude, appreciative joy), and spirituality (the meaning of life) compared to the waitlist group.

Methods

Participants

One hundred and thirty-eight Chinese adults (Mage = 27.29, SD = 8.13, 111 females) from universities and communities registered for the research. These participants were randomly assigned to the MBPP group and the waitlist group. Although both groups had more females than males, gender did not impact the changes in other variables in MBPP (ps > .079). They included university students (87), university staff (16), and community members (35). Eighty-four of them were graduates or graduate candidates, and 54 were bachelor's or undergraduate students. Most of them had no religious beliefs (130), and a few identified themselves as Buddhist (5), Christianity (2), and others (1; not Daoist or Islamist). The participants in the MBPP group decreased from 69 to 46 postintervention and to 40 at the 3-month follow-up; the participants in the waitlist group decreased from 69 to 58 postintervention and to 51 at the 3-month follow-up (see Fig. 1). Among the 104 participants who finished the postintervention assessment, 60 reported no meditation experience before participating in the current study, and the others practiced at least one of the following types of meditation: mindfulness meditation (24), FIMs (3), or other meditation (26).

Procedures

The MBPP condition was described as "a 6-week-positive psychology meditation training course for healthy people to

enhance happiness, virtue, and ability" during the recruitment process, and its name emphasized mindfulness and positive psychology to ensure that it was understood as a secular psychological intervention without preference for a specific cultural background. The participants were recruited through posters on the university campus and online social networks (e.g., WeChat, Zhihu). To be included in the study, participants had to meet following criteria: (a) at least 18 years old and (b) no self-reported current or previous mental disorders. Participants registered for the research and finished the preintervention measurement online. After all participants finished the preintervention measurement, they were randomly allocated to the MBPP group or the waitlist group based on a computer-generated randomizer without matching for any demographic or psychological variables. Participants from both groups finished biweekly measurements during the 6-week intervention, and they later finished a postintervention measurement (week 6) and a 3-month follow-up measurement. As a part of a larger project, participants in the current study also completed other measures for other purposes, which will be presented in other reports. All research procedures were approved by the IRB of the Beijing Normal University. All participants agreed with the online consent form during registration, and signed consent forms were collected during interventions. All interventions were free of charge, and participants who completed the research received 100 RMB as a reward. Participants in the waitlist group were invited to receive the intervention after the research.

Program Description

MBPP was designed as an SG-MBI to promote the wellbeing of healthy adults, which is considered compatible with different cultures but does not target specific cultures (e.g., Buddhism, Confucianism). During the 6-week MBPP intervention, participants attended one 2.5-h group session each week and practiced meditation at home (following a 12- to 15-min recording) for at least 5 days per week. As illustrated in Table 1, the MBPP intervention included three modules. The first 2 weeks included the "relief" module, which aims to reduce negative symptoms such as depression and anxiety. The psychoeducation during group sessions discussed mindfulness and self-compassion, and meditation practices utilized mindfulness meditation (body scanning). It was notable that Buddhist wisdom, such as nonself, was briefly introduced as skills to facilitate observing and accepting bodily sensation, but not as universal truth in philosophy. The middle 2 weeks included the "promotion" module, which aims to enhance positive traits or character strengths in terms of positive psychology. Because interpersonal relationships play an important role in positive psychology (Peterson, 2006) and align with FIMs in SG-MBIs, the psychoeducation in this stage focused on interpersonal strengths, especially gratitude and appreciative joy (Zeng et al., 2020). Meditation
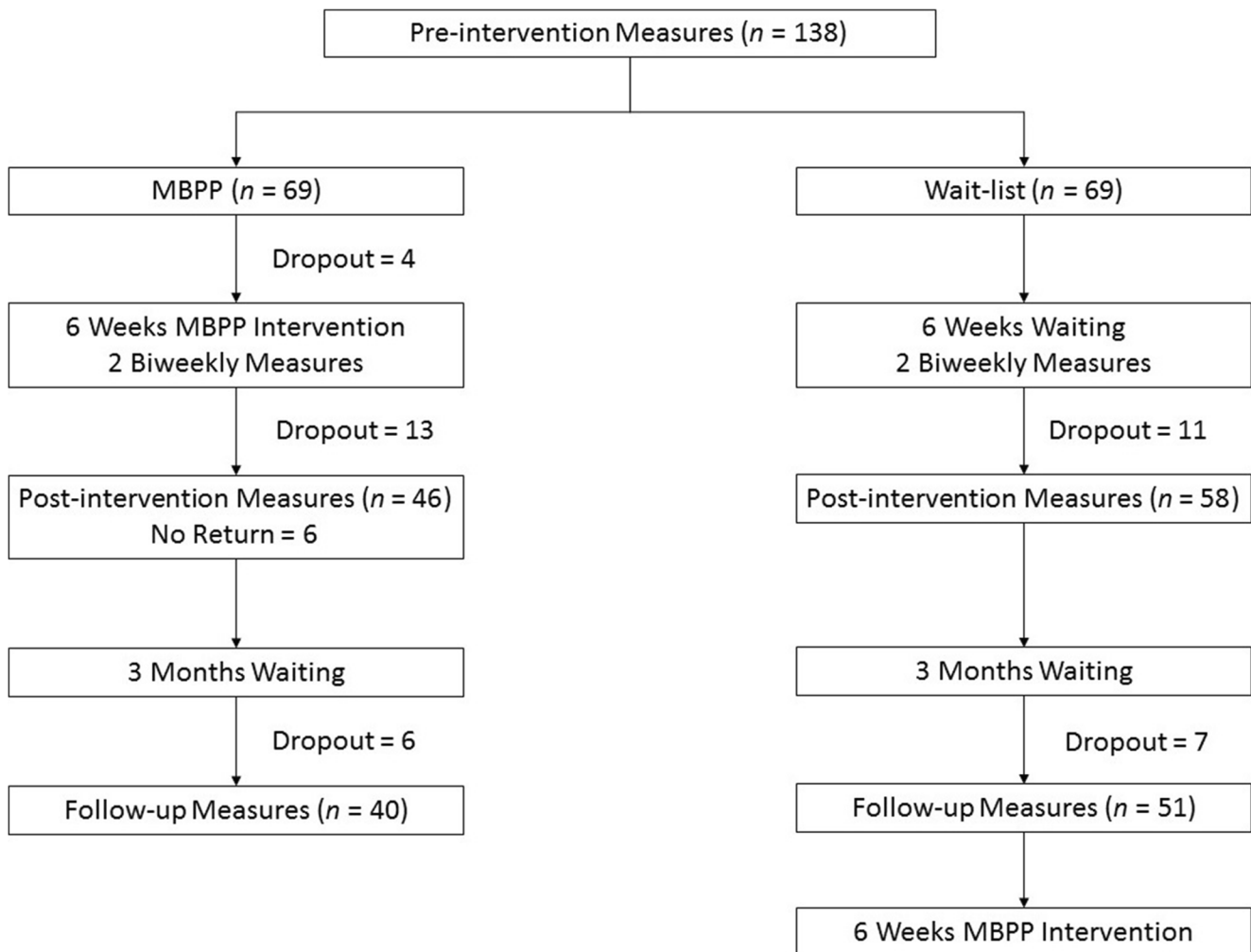
Fig. 1 Flowchart of the study

practices used loving-kindness meditation and appreciative joy meditations for close ones. The last 2 weeks included the "transcendence" module, which aims to develop spirituality and to clarify philosophical and ethical issues. The psychoeducation in this stage discussed philosophical topics and personal values, and meditation practices used appreciative joy meditations for oneself and for neutral persons. Confucian values were imported into the "transcendence" module. The most important function of this module was to illustrate the philosophy underlying previous modules. For example, the idea of developing loving-kindness to increase happiness in the "promotion" module was criticized by Confucian values, as the latter emphasize the intrinsic values of kindness; the consequentialism values underlying the emphasis on acceptance in the "relief" module were clarified by introducing Confucian values that endorse intrinsic values of actions even though those actions cannot achieve utilitarian goals. Additionally, Confucian values were

also used as a relatively simple and secular philosophy for spirituality development. For example, the intervention mentioned many different traditions that have taught oneness and further illustrated the concept of oneness with the values developed by ancient Confucian ZhangZai (ChangTsai), which considers that a person is formed by part of the universe (large self) and thus advocates loving others (other parts of large self) and facing death peacefully (back to the large self; Chow, 1993). As an effort of value clarification, the "transcendence" module explicitly expressed the principle that trainees were invited to experience traditional spirituality (e.g., oneness) during meditation practices but that they did not necessarily have to accept those ideas because Confucian and Buddhist philosophy and ethics are not must-accepted truths.

The protocol was developed by the third author (XZ), who has a doctoral degree in psychology, 9 years of meditation experience, and previous experiences with teaching

Table 1 Structure and component of the MBPP

	Components	Meditation practice	Rated themes
Week 1	Overall introduction Introducing meditation Practicing breathing meditation Introducing principle of meditation Introducing being present Introducing body scanning Practicing body scanning Introducing purposes of body scanning	12 min: body scanning	Being present; psychological acceptance
Week 2	Discussing the practice during last week Introducing psychological acceptance Introducing compassionate body scanning Practicing compassionate body scanning Introducing skills of psychological acceptance based on non-self Introducing self-compassion	12 min: compassionate body scanning	Psychological acceptance; balance between acceptance and change; self-compassion
Week 3	Discussing the practice during last week Introducing the importance of relationship on happiness Introducing loving-kindness meditation Practicing loving-kindness meditation for benefactors Introducing skills of loving-kindness meditation Practicing loving-kindness meditation for friends Introducing gratitude	12 min: Loving-kindness meditation for close one	Positive interpersonal relationship; appreciation of beauty in life
Week 4	Discussing the practice during last week Introducing appreciative joy Introducing appreciative joy meditation Practicing appreciative joy meditation for others Introducing skills of appreciative joy meditation for others Introducing skills of appreciative joy for self Practicing appreciative joy meditation for oneself	15 min: appreciative joy meditation for close one and oneself (on happiness)	Positive interpersonal relationship; appreciation of beauty in life
Week 5	Discussing the practice during last week Introducing appreciative joy meditation for neutral ones Practicing appreciative joy meditation for neutral ones Introducing philosophy of oneness Introducing clarification of personal values Introducing Eudaimonia and Confucian ethics	15 min: appreciative joy meditation for oneself (on virtues) and neutral one	Meaning of life; self-transcendence; virtue ethics
Week 6	Discussing the practice during last week Introducing future practice and skills of blessing disliked one Practicing appreciative joy meditation for disliked one Introducing the integration of meditations practice Practicing loving-kindness meditation for group members	15 min: appreciative joy meditation for oneself (on any) and (close or neutral) others	Self-transcendence; balance between present and future

meditation. The interventions in the current study were led by the developer with the help of two candidates for a master's degree in psychology. The group sessions had approximately 20 participants per group.

Measures

The Depression Anxiety Stress Scales-21 (DASS-21; Lovibond & Lovibond, 1995) were used to measure the frequency of experience relevant to depression, anxiety, and stress during the last 2 weeks and were used as an indicator of negative symptoms. All items were rated from 1 (not at all) to 4 (always) points, and the score of every dimension was calculated by the average. The Chinese version of the DASS-21 has demonstrated good validity in previous studies (Oei

et al., 2013), and the alpha coefficients for the three dimensions ranged from .72 to .88 in the current study.

The general version of the Appreciative Joy Scale (AJS; Zeng et al., 2017b) was used to measure trait-like appreciative joy for others and was used as an indicator of positive traits. The 14 items included 3 dimensions: sense of joy, positive interpersonal bias, and self-transcendence. All items were rated on a scale from 1 (not at all like me) to 9 (totally like me) points, scoring on average. The AJS was validated among Chinese people (Zeng et al., 2017d), and the alpha coefficients for three dimensions ranged from .83 to .88 in the current study.

The Gratitude Resentment and Appreciation Scale short form (GRAT; Watkins et al., 2003) measures trait gratitude and was used as another indicator of positive traits. The 16 items included 3 dimensions: lack of a sense of deprivation,

simple appreciation, and appreciation of others, and the score of each dimension was calculated by averaging total scores of items in the dimension. All items were rated on 1 (disagree at all) to 9 (agree at all) points. The GRAT has been validated among Chinese (Lin & Huang, 2016), and the alpha coefficients for three dimensions ranged from .70 to .83.

The Meaning in Life Scale (ML; Steger et al., 2006) was used as the indicator for spirituality. The 10 items measured two dimensions: presence of meaning and search for meaning, using average scores. All items were rated from 1 (disagree at all) to 9 (agree at all) points. The ML was validated among Chinese people (Yuen & Yau, 2015), and the presence of meaning and search for meaning had alpha coefficients of .84 and .86, respectively, in the current study.

Additionally, participants in the MBPP group reported the amount of meditation practice they engaged in at home and their ratings for different aspects of MBPP. Specifically, the overall ratings for MBPP included overall satisfaction (0 = not satisfied at all, 10 = satisfied greatly), the possibility of recommendation for others (0 = definitely not recommended, 10 = definitely recommended), and the logic of design ("do you think the courses were designed logically (sessions deployed step by step and connected with each other)?", 0 = very confusing logic, 10 = very clear logic). The value of each of the following major themes was rated from 0 (not valuable) to 10 (extremely valuable): being present, psychological acceptance, self-compassion, positive interpersonal relationship, appreciation of beauty in life, meaning of life (personal value), self-transcendence, virtue ethics (beyond utilitarianism), balance between acceptance and change, and balance between present and future. The likability of the meditation was rated from 0 (not at all) to 10 (very much) in terms of the following aspects: body scanning, mindfulness meditation, FIMs for close ones, FIMs for self, and FIMs for neutral persons. Whether the intervention included sufficient clarification of the intervention's philosophical standpoint and sufficient respect for the trainees' choices was rated from 1 (totally disagree) to 4 (totally agree).

Data Analyses

Data analysis was conducted using SPSS 20.0, and the effect sizes were transformed to Cohen's d (0.2 as small, 0.5 as medium, and 0.8 as large effect sizes). The preintervention measurements showed no significant difference between the MBPP group and the waitlist group in all demographic or psychological variables ($ps > .119$), except that the MBPP group involved significantly more university students ($p = .011$). Further analysis found that controlling for this variable did not have an essential impact on the change of results from preintervention to postintervention ($ps > .058$); thus, the results without controlling variables are reported below. Although there were more females among participants, post

hoc analysis confirmed that gender did not impact the effects of MBPP on outcome variables ($ps > .079$). Changes from preintervention to postintervention and changes from preintervention to 3-month follow-up were analyzed with a 2 (conditions) by 2 (times) ANOVA (for different concepts: depression, anxiety, stress, experienced meaning, seeking meaning) or MANOVA (for multiple dimensions of same concept: gratitude and appreciative joy). Participants' adherence to and ratings of MBPP and different components were analyzed to indicate the acceptability and contribution of different components. Because this initial study is concerned mainly with participants' change and feedback after completing the MBPP and because variables such as ratings and meditation practice were available only postintervention, the statistical analysis below was based on participants who returned the postintervention measurements. The intent-to-treat (ITT) analysis is presented in the Online Resources section and is briefly mentioned below. Missing data were interpolated with the last available observation. The data reported in this manuscript can be found on https://osf.io/xryhj/?view_only= None. Harman's single-factor test was conducted to evaluate the common methods bias. The major factor explained 16.85% of total variance, which indicated that the results were not heavily impacted by common methods bias.

Results

Adherence and Acceptability

At the postintervention measurements, the attrition rates in the MBPP group (33.3%) were significantly higher than those in the waitlist group (15.9%; $p = .029$). The dropout and retained participants showed no significant difference in terms of demographic and psychological variables at the preintervention measurement ($ps > .175$). The participants who completed MBPP attended an average of 5.37 group sessions ($SD = 0.68$) and practiced meditation at home 3.76 ($SD = 1.00$) times per week. At the 3-month follow-up, 35 participants in the MBPP group still practiced meditation, averaging 4.57 ($SD = 4.25$) times in the previous week.

As a rating for the entire MBPP intervention, the overall satisfaction, possibility of recommendation, and logic of design were 8.26 ($SD = 1.76$), 7.61 ($SD = 2.55$), and 8.70 ($SD = 1.56$) out of 10, respectively. Value clarification and respect for choice averaged 3.70 out of 4 ($SD = 0.63$). Regarding the likability of the meditation (rated from 0 to 10), the results were as follows: body scanning = 8.17 ($SD = 1.66$), FIMs for close ones = 7.74 ($SD = 1.95$), FIMs for self = 7.96 ($SD = 2.14$), and FIMs for neutral persons = 7.30 ($SD = 2.03$). Post hoc ANOVA showed that FIMs for neutral persons had significantly lower likability than other meditations ($ps < .038$), and the other meditations had no significant difference with

each other. Regarding values of the different themes (rated from 0 to 10), the results were as follows: being present = 8.41 (SD = 1.90), psychological acceptance = 8.52 (SD = 1.74), self-compassion = 8.26 (SD = 2.06), positive interpersonal relationship = 8.15 (SD = 1.90), appreciation of beauty in life = 8.15 (SD = 2.05), meaning of life = 8.07 (SD = 2.15), self-transcendence = 7.70 (SD = 2.50), virtue ethics = 7.61 (SD = 2.31), balance between acceptance and change = 8.24 (SD = 2.09), and balance between present and future = 8.36 (SD = 2.14). Post hoc ANOVA showed that themes in the transcendence module received lower ratings: virtue ethics had significantly lower ratings than all other themes except for self-transcendence (ps < .022); self-transcendence had significantly lower ratings than being present, psychological acceptance, self-compassion, and balance between present and future (ps < .040); and meaning of life had significantly lower ratings than psychological acceptance and balance between present and future (ps < .038). In addition, psychological acceptance also had significantly higher ratings than positive interpersonal relationships (p = .042). It is notable that there were still participants who rated virtue ethics (n = 13), self-transcendence (n = 15), and meaning of life (n = 17) higher than the average of other themes, which indicated individual differences.

Effects on Negative Symptoms

The time × group ANOVA for different negative symptoms is presented in Table 2. The results showed that MBPP significantly reduced anxiety with a medium effect size postintervention and at the 3-month follow-up. The decrease in stress had a small to medium effect size, but it was only significant postintervention and became nonsignificant (p = .056) at the 3-month follow-up. The decrease in depression also had small to medium-sized effects, but it was nonsignificant postintervention (p = .051) and at the 3-month follow-up (p = .247). The supplemental materials present a further exploration based on biweekly measurements of these negative symptoms (Table S1), and the findings indicated that the changes in these variables occurred at week 2 (i.e., after the "relief" module) and were maintained postintervention. The ITT analysis yielded a similar result, except that postintervention stress (p = .051) and anxiety at the 3-month follow-up (p = .074) shrunk to marginal significance (see Table S2).

The amount of meditation practice during intervention did not correlate with the changes in these negative symptoms from preintervention to postintervention (ps > .361). Considering that mindfulness meditation was practiced only in the "relief" module, further analysis showed that the amount of meditation practice in the first 2 weeks significantly correlated with the change in stress from preintervention to week 2 (r = −.293, p = .048) but did not significantly correlate with the change in other negative symptoms (ps > .068).

Effects on Positive Traits

The MANOVA for the three dimensions of appreciative joy showed no significant postintervention time × group interactions (ps > .549) or at the 3-month follow-up (ps > .670; Table 2 presents the ANOVA for each dimension). The amount of meditation practice during intervention was significantly correlated with change in the sense of joy (r = .396, p = .006) and self-transcendence (r = .374, p = .010) dimensions and had a marginally significant correlation with positive interpersonal bias (r = .287, p = .053) from preintervention to postintervention.

The MANOVA for the three dimensions of gratitude showed no significant postintervention time × group interactions (ps > .347) or at the 3-month follow-up (ps > .424; Table 2 presents the ANOVA for each dimension). The amount of meditation practice significantly correlated with the change in appreciation of others (r = .293, p = .048) but not in the lack of a sense of deprivation (r = −.030, p = .845) or in simple appreciation (r = .189, p = .209) from preintervention to postintervention.

Effects on Spirituality

As presented in Table 2, the presence of meaning and search for meaning did not show a significant interaction postintervention or at the 3-month follow-up. The amount of meditation practice did not significantly correlate with the change from preintervention to postintervention (ps > .487).

Discussion

Acceptability of MBPP

The current study developed MBPP as an SG-MBI that is compatible with Confucian values. It provided an evaluation of the first trial of MBPP, and it was also an initial application of SG-MBI in China. The attrition rates were compatible with those of previous MBIs in similar settings (e.g.,Orellana-Rios et al., 2018 ; Zeng et al., 2019). The reasons for attrition were not formally collected, but it is notable that the free intervention seems to involve participants with low commitment. For example, few students reported that they found new activities and quit the research before the intervention began.

The ratings from participants who completed the intervention supported an acceptable overall satisfaction with MBPP that is comparable to those for other MBIs with similar measurements (Orellana-Rios et al., 2018; Zeng et al., 2019). Because MBPP integrates Buddhist components with Confucian values and modern positive psychology, the logic of the intervention was rated, and the results showed that the MBPP was well organized from the perspective of participants, which also supported that Confucian ideas can be smoothly integrated into SG-MBIs. The MBPP emphasized value

Table 2 Outcome variables and their changes

	PRE ($M \pm SD$)		POST ($M \pm SD$)		PRE to POST (F, p, Cohen's d)	FU ($M \pm SD$)		PRE to FU (F, p, Cohen's d)
	MBPP	Waitlist	MBPP	Waitlist		MBPP	Waitlist	
Depression	1.69±0.63	1.75±0.57	1.56±0.65	1.95±0.62	3.892 (.051, 0.392)	1.59±0.64	1.86±0.67	1.534 (.218, 0.247)
Anxiety	1.73±0.53	1.68±0.41	1.50±0.49	1.83±0.56	7.920 (.006, 0.557)	1.50±0.48	1.77±0.53	7.069 (.009, 0.527)
Stress	2.26±0.63	2.21±0.61	1.93±0.64	2.25±0.65	4.031 (.047, 0.397)	1.92±0.63	2.21±0.67	3.750 (.056, 0.381)
AJS-SOJ	5.87±1.69	5.99±1.64	6.39±1.78	6.23±1.73	0.361 (.549, 0.127)	6.21±1.74	6.35±1.67	0.002 (.968, 0.008)
AJS-PIB	6.30±1.53	6.46±1.36	6.54±1.73	6.48±1.36	0.309 (.580, 0.110)	6.72±1.44	6.72±1.23	0.183 (.670, 0.090)
AJS-ST	5.22±1.79	5.60±1.67	5.38±2.00	5.66±1.75	0.028 (.867, 0.033)	5.32±1.85	5.64±1.96	0.012 (.913, 0.022)
GT-LOSD	6.27±1.45	6.18±1.21	6.41±1.34	6.00±1.22	0.893 (.347, 0.191)	6.57±1.31	6.20±1.24	0.644 (.424, 0.155)
GT-SA	7.30±1.25	7.37±1.08	7.55±1.11	7.37±1.03	0.838 (.362, 0.180)	7.57±0.86	7.51±0.97	0.238 (.627, 0.090)
GT-AO	7.21±1.11	7.19±1.15	7.23±1.10	7.41±1.04	0.509 (.477, 0.142)	7.24±1.00	7.40±0.98	0.467 (.496, 0.142)
ML-P	4.66±1.19	4.53±1.22	4.93±1.11	4.70±1.22	0.098 (.755, 0.063)	4.73±1.30	4.68±1.29	0.039 (.843, 0.039)
ML-S	5.52±1.04	5.57±0.73	5.48±1.21	5.37±0.90	0.345 (.558, 0.110)	5.51±1.08	5.46±1.05	0.190 (.664, 0.090)

AJS-SOJ, AJS-PIB, and AJS-ST indicate sense of joy, positive interpersonal bias, and self-transcendence in Appreciative Joy Scale, respectively. GT-LOSD, GT-SA, and GT-AO indicate lack of a sense of deprivation, simple appreciation, appreciation of others in gratitude resentment, and appreciation scale, respectively. ML-P and ML-S indicate present of meaning and search for meaning in the meaning of life scale, respectively. F tests are time × group interactions and all $df = 1, 102$. PRE preintervention, POST postintervention, FU 3-month follow-up

clarification and the importance of personal choices, and the results indicated that participants perceived and endorsed such efforts. These ratings indicated that MBPP seems acceptable and at least did not raise ethical criticisms or cultural conflicts when applied among Chinese people in mainland China.

Regarding the ratings for major themes, all major themes were rated as highly valuable. Additionally, the themes in the "transcendence" module received significantly lower ratings than those of other themes. A possible explanation for lower ratings for themes in the "transcendence" module is that they did not match the interests of participants. A previous study investigated the reasons for practicing mindfulness meditation and found that 94.74% of people mentioned a reduction in negative experiences, while only 6.32% of people mentioned spirituality (Pepping et al., 2016). Thus, the participants in the current study may have low interest in the spiritual themes included in the "transcendence" module. Despite the average, further exploration revealed that few participants considered the themes in the "transcendence" module to be more valuable than other themes, which indicates individual differences. Many theories, such as Maslow's hierarchy of needs and Erikson's psychosocial development theory, have noted that the need for spirituality is associated with aging (Yount, 2008). Most of the participants in the current study were young or middle-aged, and whether ideas such as oneness are more valuable for elderly individuals could be investigated in future studies.

Effects on Negative Symptoms

All negative symptoms were reduced at a significant or marginally significant level postintervention. Further exploration found that these negative symptoms were reduced immediately after the first module that aimed to reduce them, and only a change in stress was associated with mindfulness meditation in the first module. The psychoeducation of the first module discussed mindfulness and self-compassion, which are widely supported effective strategies to reduce negative symptoms (e.g., Cheung & Ng, 2019; Galili-Weinstock et al., 2020). Previous studies have also shown that mindfulness techniques and rationales are not necessarily cultivated in the form of meditation (Fletcher & Hayes, 2005), and the principle of self-compassion can also be delivered in a psychoeducational way (Kang et al., 2015). In particular, the participants in the current study were all mentally healthy people; thus, brief psychoeducation on the technique and rationales of mindfulness and self-compassion may have been enough for them to respond to negative symptoms in more adaptive ways. Therefore, it is reasonable that the first module dramatically reduced negative symptoms through psychoeducation, thereby making meditation practices less important. It is also possible that the floor effects might limit the range of change and its correlations with amount of meditations. The current study cannot confirm these explanations, and future studies could further clarify the active components of changes in negative symptoms. Additionally, the effects shrunk at the 3-month follow-up, especially for depression, which calls into question how long these dramatic changes can last. Notably, the explicit discussion of negative symptoms and emotion regulation techniques in psychoeducation may lead to strong demanding effects; thus, the robustness of the effects requires more research in the future.

Effects on Positive Traits

As the targeted positive traits of the "promotion" module, gratitude and appreciative joy did not show significant improvements after the intervention or at the 3-month follow-up. It is possible that MBPP did not successfully impact these positive traits. Additionally, the measures involved some trait-like items, which are not sensitive enough to experience changes over several weeks.

While there was no significant improvement at the group level, the changes in appreciative joy and gratitude were significantly correlated with the amount of meditation practice. Such dissociation between effects on the group level and correlation with meditation practice has been widely observed in meditation research (see Zeng et al., 2017c for a review). Such findings implied that the effects require more meditation practice or that the effects are limited to those who practice meditation. It is reasonable that cultivation of appreciative joy and gratitude requires more meditation practice. First, the reduction in negative symptoms is a "subtraction", which could be reached by simply stopping those maladaptive behaviors (e.g., avoidance) and beliefs (e.g., self-criticism) in daily life. In contrast, the promotion of positive traits is an "addition", which requires adding new activities that bring relevant experiences; thus, meditation practice is more contributive. Second, while those negative symptoms focus on oneself, gratitude and appreciative joy involve attitudes towards people. A previous study found that changes in attitudes towards oneself can be reached by discussing the principle of loving-kindness, while changes in attitudes towards others require experiencing loving-kindness meditation (Kang et al., 2015). While the correlations between meditation practice and the effects on positive traits are reasonable, it is notable that the correlational findings do not indicate a causal relationship between meditation practice and positive traits. As noted by Zeng et al. (2017c), it is possible that people who endorse the ideas of gratitude and appreciative joy are more willing to practice meditation, and the expectancy effect may be more serious for people who spend a great deal of time on meditation practice.

Effects on Spirituality

The meaning of life was expected to be impacted by the "transcendence" module in two ways: the first way is that clarifying personal values might help participants understand meaning in life, and the second way is that the introduction of spiritual ideas such as oneness may lead to the development of a new meaning of life. However, the meaning of life scale did not show significant change after the intervention or at the 3-month follow-up. It is possible that many participants already know what is important in their lives, which was supported by observations from group discussions. Additionally, the course

introduced the importance of knowing one's own value but did not spend time clarifying personal values during the group session. Thus, the impact of clarifying personal values might be weak. Spiritual ideas were not necessarily accepted by every participant, as MBPP explicitly emphasizes. Additionally, even if participants realized what is important in their lives because of the intervention or accepted spiritual ideas such as the philosophy of oneness, more time might be needed to transform this knowledge into an experience or a sense of meaning in life. Therefore, although components in the "transcendence" module are relevant to meaning in life, its impact on the experience of meaning in life might be weak.

A methodological limitation for evaluating the effects on spirituality is the lack of suitable measurements for those philosophical ideas or mental states discussed in the "transcendence" module. For example, MBPP introduced ancient Confucian ZhangZai's theory of oneness, which not only emphasizes a person as a part of the universe but also further advocates loving others and facing death peacefully (see the "Methods" section). This idea is more complex than the belief that everything is connected, as given in recently developed measurements for belief in oneness (Diebels & Leary, 2019; Garfield et al., 2014). Therefore, the current study did not adopt those measures and directly rated whether relevant themes were valuable to participants. However, it is unclear whether a rating of "valuable" means that the participants learned interesting knowledge, accepted those ideas, or even achieved those mental states. Therefore, future studies could further investigate spiritual change and its impacts using more suitable measurements.

Broader Implications for SG-MBI

In addition to evaluating the acceptability and effects of MBPP, the current study also has broader implications for further research on SG-MBIs. First, an increasing theoretical discussion has indicated that SG-MBIs deliver values or ethics that are not necessarily universally accepted (Davis, 2015), and the current study inspired further consideration about how to facilitate value clarification and potential cultural conflicts in practice. MBPP highlights how some Buddhist values conflict with Confucian values to enhance its cultural compatibility in China. However, it is notable that MBPP is not an intervention that is limited to the Chinese or Confucian culture, and Buddhist values widely exist in secular forms in SG-MBIs regardless of whether they are explicitly compared with Confucianism. Therefore, whether those values need to be clarified for trainees in other cultures or in other SG-MBIs is an open question. Notably, the current study compared MBPP with a waitlist condition rather than with existing SG-MBIs or matched interventions without value clarification. Therefore, it is difficult to evaluate whether the value clarification in MBPP is contributive or redundant in terms of both ethical

considerations and intervention effectiveness. The current study found that participants were satisfied with the value clarification in MBPP, but one may question whether many participants might realize any problem even if the intervention makes no value clarification. This question leads to another important question: is participant satisfaction a good standard for sufficient value clarification? Essentially, value clarification is the responsibility of intervention providers, and it should not be skipped because participants do not note any problems. Furthermore, even if value clarification is considered important for the sake of trainees' right of choice, it is not practical to discuss too much philosophy in a limited time. In summary, which parts of Buddhist philosophy should be clarified, for whom, to what extent, and in which ways are complex and open questions.

Second, SG-MBIs often integrate a wide range of components, and the current study inspires further evaluation of the values or contributions of different components. Some scholars have criticized that the integration of more components seems to reflect the will of the intervention developers more than the needs of trainees, especially considering that more evidence is still required to support many components' benefits for trainees (Ran et al., 2019). The current study empirically supported that the values of different components are not the same for trainees. More specifically, while developing a spiritual life (rather than simply teaching emotion regulation skills) is an important characteristic that distinguishes SG-MBIs from early MBIs (Van Gordon et al., 2015), the current study found that those spiritual themes seem less valuable for trainees, although individual differences also exist. Therefore, SG-MBIs should further investigate the effects of new components and match them with the needs of trainees.

Additionally, the current study also pointed out potential methodological issues for future studies on SG-MBIs. The current study found that there is a lack of suitable measurements for Confucian ideas, and many Buddhist ideas such as emptiness also lack measurements. Essentially, while depression and gratitude are more or less experienced by most people, those mentalities such as boundless love are hard to fully achieve, and their underlying philosophical ideas such as oneness are completely unfamiliar to many people. Namely, SG-MBIs involve the cultivation of idealistic mentalities, which are desirable or perfect in an ethical sense and are not achieved or experienced in an ontological sense (Zeng, 2020). Zeng (2020) noted that such nature of idealistic mentalities will lead to several methodological and ethical challenges in psychological research and practice and even suggested an "idealistic psychology" that aims to design, achieve, and evaluate idealistic mentalities. Some of those methodological challenges are also faced by current studies on SG-MBIs. For example, do SG-MBIs expect their trainees to fully achieve idealistic mentalities such as equal love during the intervention, and if not, what is the standard for a successful intervention or manipulation in

research? How can those idealistic mentalities be measured if few people achieve them, and how can complex philosophical ideas such as emptiness be properly addressed in a precise and understandable way by people without a Buddhist or other corresponding background? In summary, new components and new purposes in SG-MBIs also brought new methodological challenges that are worthy of further discussion.

Limitations and Future Directions

The current study has several limitations. First, the statistics are based on participants who completed the intervention rather than the ITT analysis. While the analysis based on completers addresses the major concern of this study, the generalization of the conclusions remains limited. Second, all the measurements in current study were self-reported, and thus the results might suffer from common methods bias and demanding effects. Furthermore, some measurements, such as participants' ratings, are simple and lack sufficient validation, and the discussion above notes the need to develop proper measurements for those idealistic mentalities. It is also notable that the current study simply focused on the direct effects of each module, and future studies could investigate these mechanisms, such as measuring mindfulness and self-compassion as mediators in the first module. Third, this study involved many post hoc explorations, which might lead to false positives due to multiple comparisons; thus, the stability of those findings should be considered with caution. Fourth, all the participants received high level of education, which might affect the outcomes potentially. And the current study overlooked the previous mental schemes, which might influence the effect from MBPP to outcomes, and this might influence the credibility of the outcomes. In particular, because Confucianism is not considered a religion, the current study did not measure participants' beliefs in Confucianism. Future studies could develop validated measures for participants' attitudes to Confucianism or specific spiritual ideas. Finally, the current study did not adopt an active control group and did not use blinding design to avoid expectation effects and experimenter bias, which might also have influenced the results. Despite the limitations above, the current study supports the promising effects of a new intervention and offers multiple directions for future research on SG-MBIs.

Author Contribution XZ developed MBPP and designed the study; XZ, JZ, and MJ led the interventions; YZ collected the data; YZ and JZ analyzed the data; XZ, JZ, YZ, and TO wrote the article; all authors discussed the results. All author approved the final version of the manuscript for submission.

Declarations

This study was approved by IRB of the Beijing Normal University. All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

Conflict of Interest The authors declare no competing interests.

References

Anālayo, B. (2019). Immeasurable meditations and mindfulness. *Mindfulness, 10*, 2620–2628. https://doi.org/10.1007/s12671-019-01237-0.

Bayot, M., Vermeulen, N., Kever, A., & Mikolajczak, M. (2020). Mindfulness and empathy: Differential effects of explicit and implicit Buddhist teachings. *Mindfulness, 11*, 5–17. https://doi.org/10.1007/s12671-018-0966-4.

Chen, S., & Jordan, C. H. (2020). Incorporating ethics into brief mindfulness practice: Effects on well-being and prosocial behavior. *Mindfulness, 11*(1), 18–29. https://doi.org/10.1007/s12671-018-0915-2.

Cheung, R. Y., & Ng, M. C. (2019). Mindfulness and symptoms of depression and anxiety: The underlying roles of awareness, acceptance, impulse control, and emotion regulation. *Mindfulness, 10*(6), 1124–1135. https://doi.org/10.1007/s12671-018-1069-y.

Chow, K. W. (1993). Ritual, cosmology, and ontology: Chang Tsai's moral philosophy and Neo-Confucian ethics. *Philosophy East and West, 43*(2), 201–228. https://doi.org/10.2307/1399613.

Cui, D. (2009). Rational awareness of the ultimate in human life—The Confucian concept of "destiny". *Frontiers of Philosophy in China, 4*(3), 309–321. https://doi.org/10.1007/s11466-009-0020-7.

Davis, H. J. (2015). Facing up to the question of ethics in mindfulness-based interventions. *Mindfulness, 6*(1), 46–48. https://doi.org/10.1007/s12671-014-0374-3.

Diebels, K. J., & Leary, M. R. (2019). The psychological implications of believing that everything is one. *The Journal of Positive Psychology, 14*(4), 463–473. https://doi.org/10.1080/17439760.2018.1484939.

Fletcher, L., & Hayes, S. C. (2005). Relational frame theory, acceptance and commitment therapy, and a functional analytic definition of mindfulness. *Journal of Rational-Emotive and Cognitive-Behavior Therapy, 23*(4), 315–336. https://doi.org/10.1007/s10942-005-0017-7.

Galante, J., Galante, I., Bekkers, M. J., & Gallacher, J. (2014). Effect of kindness-based meditation on health and well-being: a systematic review and meta-analysis. *Journal of Consulting and Clinical Psychology, 82*(6), 1101. https://doi.org/10.1037/a0037249.

Galili-Weinstock, L., Lazarus, G., Atzil-Slonim, D., Bar-Kalifa, E., Rafaeli, E., & Peri, T. (2020). Self-compassion among psychotherapy clients is in the details of negative, not positive, emotions. *The Journal of Positive Psychology, 15*(4), 478–487. https://doi.org/10.1080/17439760.2019.1627396.

Garfield, A. M., Drwecki, B. B., Moore, C. F., Kortenkamp, K. V., & Gracz, M. D. (2014). The Oneness Beliefs Scale: Connecting spirituality with pro-environmental behavior. *Journal for the Scientific Study of Religion, 53*(2), 356–372. https://doi.org/10.1111/jssr.12108.

Harrington, N., & Pickles, C. (2009). Mindfulness and cognitive behavioral therapy: are they compatible concepts? *Journal of Cognitive Psychotherapy, 23*(4), 315–323. https://doi.org/10.1891/0889-8391.23.4.315.

Hayes, S. C., Strosahl, K., & Wilson, K. G. (1999). *Acceptance and commitment therapy: Understanding and treating human suffering.* New York: Guilford Press.

Jazaieri, H., Jinpa, G. T., McGonigal, K., Rosenberg, E. L., Finkelstein, J., Simon-Thomas, E., Cullen, M., Doty, J. R., Gross, J. J., & Goldin, P. R. (2013). Enhancing compassion: A randomized controlled trial of a compassion cultivation training program. *Journal of Happiness Studies, 14*(4), 1113–1126. https://doi.org/10.1007/s10902-012-9373-z.

Kang, Y., Gray, J. R., & Dovidio, J. F. (2015). The head and the heart: Effects of understanding and experiencing lovingkindness on attitudes toward the self and others. *Mindfulness, 6*(5), 1063–1070. https://doi.org/10.1007/s12671-014-0355-6.

Keown, D. (1996). Karma, character, and consequentialism. *The Journal of Religious Ethics, 24*, 329–350.

Li, Q. (2020). The Confucian approach to justifying human rights: Beyond the opposition between universality and particularity. *Cultura International Journal of Philosophy of Culture and Axiology, 17*(1), 193–211.

Lin, S., & Huang, Y. (2016). Psychometric properties and factorial structure of the Chinese version of the Gratitude Resentment and Appreciation Test. *British Journal of Guidance and Counselling, 44*(3), 347–361. https://doi.org/10.1080/03069885.2015.1119234.

Lomas, T., Medina, J. C., Ivtzan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2019). Mindfulness-based interventions in the workplace: An inclusive systematic review and meta-analysis of their impact upon wellbeing. *The Journal of Positive Psychology, 14*(5), 625–640. https://doi.org/10.1080/17439760.2018.1519588.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy, 33*(3), 335–343. https://doi.org/10.1016/0005-7967(94)00075-U.

Lv, J., Liu, Q., Zeng, X., Oei, T. P., Liu, Y., Xu, K., Sun, W., Hou, H., & Liu, J. (2020). The effect of four Immeasurables meditations on depressive symptoms: A systematic review and meta-analysis. *Clinical Psychology Review, 76*, 101814. https://doi.org/10.1016/j.cpr.2020.101814.

Monteiro, L. M., Musten, F., & Leth-Steensen, C. (2019). Effect of mindfulness on value incongruence: A pilot study. *Mindfulness, 10*(6), 1031–1043. https://doi.org/10.1007/s12671-018-1044-7.

Oei, T. P. S., Sawang, S., Goh, Y. W., & Mukhtar, F. (2013). Using the Depression, Anxiety and Stress Scale 21 (DASS-21) across culture. *International Journal of Psychology, 48*(6), 1018–1029. https://doi.org/10.1080/00207594.2012.755535.

Orellana-Rios, C. L., Radbruch, L., Kern, M., Regel, Y. U., Anton, A., Sinclair, S., & Schmidt, S. (2018). Mindfulness and compassion-oriented practices at work reduce distress and enhance self-care of palliative care teams: A mixed-method evaluation of an "on the job" program. *BMC Palliative Care, 17*(1), 3. https://doi.org/10.1186/s12904-017-0219-7.

Pace, T. W., Negi, L. T., Adame, D. D., Cole, S. P., Sivilli, T. I., Brown, T. D., Issa, M. J., & Raison, C. L. (2009). Effect of compassion meditation on neuroendocrine, innate immune and behavioral responses to psychosocial stress. *Psychoneuroendocrinology, 34*(1), 87–98. https://doi.org/10.1016/j.psyneuen.2008.08.011.

Pepping, C. A., Walters, B., Davis, P. J., & O'Donovan, A. (2016). Why do people practice mindfulness? An investigation into reasons for

practicing mindfulness meditation. *Mindfulness, 7*(2), 542–547. https://doi.org/10.1007/s12671-016-0490-3.

Peterson, C. (2006). *A primer in positive psychology.* New York City: Oxford University Press.

Pizarro, J. J., Basabe, N., Amutio, A., Telletxea, S., Harizmendi, M., & Van Gordon, W. (2020). The mediating role of shared flow and perceived emotional synchrony on compassion for others in a mindful-dancing program. *Mindfulness, 11*(1), 125–139. https://doi.org/10.1007/s12671-019-01200-z.

Ran, L., Wang, G., & Zeng, X. (2019). Second generation mindfulness-based interventions: Idea, empirical research and theoretical debates. *ChinaXiv.*

Shonin, E., Van Gordon, W., Dunn, T., Singh, N., & Griffiths, M. D. (2014). Meditation awareness training (MAT) for work-related wellbeing and job performance: A randomized controlled trial. *International Journal of Mental Health and Addiction, 12*(6), 806–823. https://doi.org/10.1007/s11469-014-9513-2.

Singh, N. N., Lancioni, G. E., Winton, A. S., Karazsia, B. T., Myers, R. E., Latham, L. L., & Singh, J. (2014). Mindfulness-based positive behavior support (MBPBS) for mothers of adolescents with autism spectrum disorder: Effects on adolescents' behavior and parental stress. *Mindfulness, 5*(6), 646–657. https://doi.org/10.1007/s12671-014-0321-3.

Singh, N. N., Lancioni, G. E., Karazsia, B. T., & Myers, R. E. (2016). Caregiver training in mindfulness-based positive behavior supports (MBPBS): Effects on caregivers and adults with intellectual and developmental disabilities. *Frontiers in Psychology, 7*, 98. https://doi.org/10.3389/fpsyg.2016.00098.

Singh, N. N., Lancioni, G. E., Medvedev, O. N., Myers, R. E., Chan, J., McPherson, C. L., Jackman, M. M., & Kim, E. (2020). Comparative effectiveness of caregiver training in mindfulness-based positive behavior support (MBPBS) and positive behavior support (PBS) in a randomized controlled trial. *Mindfulness, 11*(1), 99–111. https://doi.org/10.1007/s12671-018-0895-2.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*(1), 80. https://doi.org/10.1037/0022-0167.53.1.80.

Van Gordon, W., & Shonin, E. (2020). Second-generation mindfulness-based interventions: Toward more authentic mindfulness practice and teaching. *Mindfulness, 11*, 1–4. https://doi.org/10.1007/s12671-019-01252-1.

Van Gordon, W., Shonin, E., Sumich, A., Sundin, E., & Griffiths, M. D. (2014). Meditation awareness training (MAT) for psychological wellbeing in a sub-clinical sample of university students: A controlled pilot study. *Mindfulness, 5*(4), 381–391. https://doi.org/10.1007/s12671-012-0191-5.

Van Gordon, W., Shonin, E., & Griffiths, M. D. (2015). Towards a second generation of mindfulness-based interventions. *The Australian and New Zealand Journal of Psychiatry, 49*(7), 591–592. https://doi.org/10.1177/0004867415577437.

Van Gordon, W., Shonin, E., Dunn, T., & Griffiths, M. D. (2017). Meditation awareness training for the treatment of fibromyalgia syndrome: A randomized controlled trial. *British Journal of Health Psychology, 22*(1), 186–206. https://doi.org/10.1111/bjhp.12224.

Van Gordon, W., Shonin, E., Dunn, T. J., Sapthiang, S., Kotera, Y., Garcia-Campayo, J., & Sheffield, D. (2019). Exploring emptiness and its effects on non-attachment, mystical experiences, and psycho-spiritual wellbeing: A quantitative and qualitative study of advanced meditators. *EXPLORE, 15*(4), 261–272. https://doi.org/10.1016/j.explore.2018.12.003.

Watkins, P. C., Woodward, K., Stone, T., & Kolts, R. L. (2003). Gratitude resentment and appreciation test. *PsycTESTS.* https://doi.org/10.1037/t60955-000

Wielgosz, J., Goldberg, S. B., Kral, T. R., Dunne, J. D., & Davidson, R. J. (2019). Mindfulness meditation and psychopathology. *Annual Review of Clinical Psychology, 15*, 285–316. https://doi.org/10.1146/annurev-clinpsy-021815-093423.

Yount, W. R. (2008). Transcendence and aging: The secular insights of Erikson and Maslow. *Journal of Religion, Spirituality, & Aging, 21*(1-2), 73–87. https://doi.org/10.1080/15528030802265361.

Yuen, M., & Yau, J. (2015). Relation of career adaptability to meaning in life and connectedness among adolescents in Hong Kong. *Journal of Vocational Behavior, 91*, 147–156. https://doi.org/10.1016/j.jvb.2015.10.003.

Zeng, X. (2020). Ideas for idealistic psychology. *Zhihu.* https://zhuanlan.zhihu.com/p/284351284

Zeng, X., Zhou, H., Wang, C., & Liu, X. (2012). 心理接纳在心理治疗中的应用 [Application of psychological acceptance in psychotherapy]. *Chinese Journal of Clinical Psychology, 20*(6), 894–897, 900. https://doi.org/10.16128/j.cnki.1005-3611.2012.06.003.

Zeng, X., Chiu, C. P., Wang, R., Oei, T. P., & Leung, F. Y. (2015). The effect of loving-kindness meditation on positive emotions: a meta-analytic review. *Frontiers in Psychology, 6*, 1693. https://doi.org/10.3389/fpsyg.2015.01693.

Zeng, X., Chan, V. Y., Liu, X., Oei, T. P., & Leung, F. Y. (2017a). The four immeasurables meditations: Differential effects of appreciative joy and compassion meditations on emotions. *Mindfulness, 8*(4), 949–959. https://doi.org/10.1007/s12671-016-0671-0.

Zeng, X., Chan, V. Y., Oei, T. P., Leung, F. Y & Liu, X. (2017b). Appreciative joy in Buddhism and positive empathy in psychology: How do they differ? *Mindfulness, 8*(5), 1184-1194. https://doi.org/10.1007/s12671-017-0690-5

Zeng, X., Chio, F. H., Oei, T. P., Leung, F. Y., & Liu, X. (2017c). A systematic review of associations between amount of meditation practice and outcomes in interventions using the four immeasurables meditations. *Frontiers in Psychology, 8*, 141. https://doi.org/10.1007/s12671-017-0690-5.

Zeng, X., Liao, R., Zhang, R., Oei, T. P., Yao, Z., Leung, F. Y., & Liu, X. (2017d). Development of the Appreciative Joy Scale. *Mindfulness, 8*(2), 286–299. https://doi.org/10.1007/s12671-016-0599-4.

Zeng, X., Wang, R., Oei, T. P., & Leung, F. Y. (2019). Heart of joy: A randomized controlled trail evaluating the effect of an appreciative joy meditation training on subjective well-being and attitudes. *Mindfulness, 10*(3), 506–515. https://doi.org/10.1007/s12671-018-0992-2.

Zeng, X., Sun, Y., Deng, Y., & Oei, T. (2020). Appreciative joy rooted in Chinese culture: Its relationship with strengths in values in action. *The Journal of Positive Psychology., 15*(1), 112–121. https://doi.org/10.1080/17439760.2019.1651886.

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