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The Oxford Handbook of Compassion Science

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Abstract and Keywords

Compassion is a powerful feature of human experience and is a key component of individual, interpersonal, organizational and societal well-being. It is a fundamental skill that can be trained. Cultivating compassion may contribute to sustained well-being in individuals, groups, and organizations. There is now a growing scientific and clinical interest in understanding how compassion can be cultivated, and a need to examine what psychological processes are modulated by compassion training programs. The goal of this chapter is to briefly define the complex concept of compassion, describe the structure and content of the compassion cultivation training (CCT) program designed at Stanford University, and then share some of the empirical findings of research on CCT in community samples.

Keywords: compassion, meditation, mechanisms, treatment outcome, mind-wandering moderators, training

Compassion is a powerful feature of human experience and is a key component of individual, interpersonal, organizational, and societal well-being. However, understanding what it means, unpacking the components of compassion and discovering how to cultivate it, and determining how to study compassion are complex considerations. Training individuals in compassion has been a major part of many different contemplative traditions for thousands of years. Recently, there has been an upswing of interest in scientific and clinical communities which is resulting in a powerful exploration of how compassion is defined, trained, measured, and implemented in various clinical, organizational, and community settings. For example, clinical scientists are deeply interested in examining how compassion impacts emotional experience, emotion regulation, and psychological flexibility (e.g., Fredrickson et al., 2008; Jazaieri et al., 2014; Leiberg, Klimecki, & Singer, 2011). More broadly, there is great potential for integrating compassion training into educational, community, organizational, and clinical settings as a tool to enhance and sustain mental and physical health (e.g., Hofmann et al., 2015; Hofmann, Grossman, & Hinton, 2011; Johnson et al., 2011; Kearney et al., 2013). To make evidence-based decisions on how best to inculcate compassion, we need to examine the outcomes produced by different types of

Page 1 of 14

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compassion training and to elucidate the underlying psychological mechanisms of change. Thus, there is great excitement and promise in learning how, for whom, and why compassion training may be beneficial to individuals and society. In this chapter we briefly define compassion, introduce the compassion cultivation training (CCT) program designed at Stanford University, and share some of the empirical findings of research on CCT.

Defining Compassion

Compassion is a complex concept that has been defined in several ways (see Goetz, Keltner, & Simon-Thomas, 2010). From our perspective, compassion is an orientation that recognizes suffering. (p. 238) It includes a fearless motivation to understand and alleviate the causes and conditions that give rise to suffering in oneself, others, and society. It is important to note that compassion arises within a rich context that includes the development of ethics, concentration, insight, and personal commitment. These are qualities or factors that are important to keep in mind as we develop and test different compassion training programs.

Definitions of compassion will, obviously, be influenced by the historical period and cultural influences that shape thinking about human potential and development of human capacities. Here, we propose a definition that characterizes compassion as a multidimensional mental state with four key interacting components (Jinpa, 2010; Jinpa & Weiss, 2013). These four components contribute to the ontology (definitional constituents) and phenomenology (lived experiential features) of compassion.

- 1. Compassion involves an *awareness of suffering* (cognitive component). Awareness entails many cognitive processes, including focused attention on another person, taking the perspective of another person, recognizing their suffering (e.g., distress, pain, angst, confusion, discontent, disequilibrium, and so forth), and holding that suffering in unwavering focused attention and working-memory for some period of time. This awareness varies in intensity, is nonjudgmental, and embraces rather than avoids.
- **2.** Compassion involves a caring and tender concern related to being emotionally moved by suffering (affective component). This arises from a willingness to experience a softening of the heart, emotional resonance with others, and empathic concern for others. A deep emotional experience is not required, but it may occur as a result of the cognitive component.
- **3.** Compassion includes *a genuine wish to see the relief of that suffering* and, more specifically, a modification of the causes and conditions that give rise to suffering (intentional component).
- **4.** Compassion includes a responsiveness or *readiness to take action* in some way to relieve that suffering (motivational for altruistic behavioral activation). We propose that these four components provide a structure that can serve as basis for training

compassion, assessing individual differences in levels of compassion, and refining compassion training programs.

Preliminary empirical evidence supports the use of these four components of compassion and their subsequent measurement (Jazaieri et al., in preparation).

Given the complexity of compassion, there are likely to be multiple individual differences in biological and psychological factors that influence how well developed each of these four components is in an individual and that arguably moderate the effects of compassion training. The specification of additional psychological and biological factors that characterize compassion remains to be elucidated in future research studies.

In summary, here, we propose a conceptual framework that defines compassion as a complex interaction of cognitive, affective, intentional, and motivational components that orient the mind to suffering in different contexts and that may give rise to cooperative and altruistic behavior (Jinpa, 2010; Jinpa & Weiss, 2013).

The Compassion Cultivation Training Program

The Compassion Cultivation Training (CCT) program was developed as a comprehensive compassion training program by Thupten Jinpa, with contributions from a multidisciplinary team of psychologists, neuroscientists, and contemplative scholars at Stanford University. The program trains a series of techniques for mental and emotional well-being and is designed to cultivate the qualities of compassion, empathy, and kindness for one-self, loved ones, difficult people, and all beings. While the program was heavily influenced by contemplative practices from the Indo-Tibetan Buddhist traditions, special care has been taken to ensure that the practices presented in CCT are nondenominational and secular. The intention behind this decision is to make CCT as acceptable to as many communities and individuals as possible. More specifically, the intention is to share compassion training techniques in a manner that highlights the practices and supports inner experience directly. CCT is built on the understanding that compassion is fundamental to our basic nature as human beings and is part of our everyday experience of being human (Jinpa, 2015).

General Background and Structure of Compassion Cultivation Training

The standard CCT program is taught in eight or nine weeks (an optional introductory session followed by eight weekly sessions, each two hours in length). While CCT has been taught in groups as small as five and as large as 35, we suggest that it be taught in groups of 20–30 to allow for adequate (p. 239) teaching and debriefing of practices. However, the optimal size will depend on the individual instructor and his/her ability to regulate group dynamics. The key is to create an environment that supports learning, communication, and direct experience. In terms of the target population, CCT was originally designed for community-dwelling adults. However, offering CCT to specific groups such as

Page 3 of 14

chronic pain patients (e.g., Chapin et al., 2014), parents, cancer patients, teachers, health care providers, and so forth, represents a natural evolution and extension of CCT to samples of individuals who may especially benefit from focused practices to cultivate compassion for themselves and others. CCT does not have prerequisites to participate; thus recruitment is open to all individuals, including those with no prior meditation practice or retreat experience. However, future empirical studies of CCT will probably elucidate whether specific participant and instructor features predict better CCT outcomes.

Participants are informed that the CCT program builds both didactically and experientially in a sequential manner over two months. This is important to emphasize, as participants may experience discouragement or distress when initially learning compassion practices. Thus an understanding of the longer-term arc of the CCT program might mitigate shorter-term difficulties. Participants are encouraged to establish a daily home practice starting with 15 minutes per day initially, and later building up to 25-35 minutes per day. The goal is build familiarity and momentum with the variety of practices and pattern of responses to the practices. To support home practice, participants are given CDs or access to MP3s of the audiotaped meditations to guide their practice each week. In addition to the formal daily guided sitting mediation practices, weekly homework in CCT also includes informal practices. The goal of the informal practices is to help the participant integrate the didactic lessons and formal meditation practices from that particular week into one's personal and professional life. For example, during step 5 (described later), when participants are cultivating compassion for others, informal practice may include journaling on the benefits to oneself of broadening one's compassion, or observing any challenges to compassion in everyday life—noticing people, situations, or conditions where one feels resistance, difficulty, or limits to cultivating compassion for others. Thus, multiple methods are used to scaffold the learning of compassion during CCT.

Because each week builds upon the prior weeks' content, participants are told that if they have any predetermined scheduling conflicts that will prevent them from attending the CCT course regularly, or if they are unable to allot sufficient time to the homework practices, it is best to hold off on taking the course until they are able to attend consistently and keep up with homework practices. Thus far, preliminary research on CCT has suggested that there is a dose-response, whereby the amount of guided formal meditation practice during CCT is associated with better outcomes (Jazaieri et al., 2013; Jazaieri et al., 2015; Jazaieri et al., 2014). Unlike other compassion training programs (e.g., Gilbert, 2010), participants in CCT are specifically cautioned that this program is not intended to treat any specific psychopathology and is not intended to replace psychotherapy. In fact, participants are told that CCT may bring up a variety of reactions such as negative emotions and memories, and participants are assessed for and encouraged to seek outside professional help during the course of CCT should the need arise.

Each CCT class follows a similar structure while reinforcing prior learning and introducing new content. The class structure consists of:

1. a brief introductory guided meditation practice;

- **2.** homework check-in both in small groups of two or three participants, followed by a larger group discussion;
- **3.** introduction to the specific step of the week (described later) with pedagogical instruction and active group discussion;
- **4.** interactive exercises designed to generate feelings of open-heartedness and connection to others through reading poetry or reflecting on inspiring stories;
- **5.** a longer guided meditation on the specific step of the week, followed by a group debrief and discussion;
- **6.** assignment of new homework consisting of both informal and formal practices for the week; and
- 7. a brief closing activity.

There is a short break of 10–15 minutes midway through the two-hour class. This class structure is important for both the instructor and the course participant, as it provides regularity and clarity. The function of homework is to help encourage participants to integrate the principles of compassion into their lives and interactions outside of the class.

(p. 240) Ideally, over time, there is increasing alignment and fluidity between intrapersonal experience and interpersonal expression of compassion. Each instructor may also include inspiring stories relevant to the theme of the particular step of the week. This allows instructors to enliven the class and highlight how compassionate action already exists in the world. CCT classes also include some basic psychological education pertaining to the dynamic interactions between thoughts, emotions, and feelings, and their relationship to one's well-being.

One important aspect of the CCT program includes partner and small-group sharing each week. In these exercises, participants are given specific instructions on how to practice compassionate listening, which is rooted in the scientific understanding of empathy (e.g., focused attention, eye contact, body language, perspective taking, nonjudgmental attitudes, and receiving vs. advice-giving). For example, during the week on "common humanity," participants get into pairs, and one participant begins by sharing with their exercise partner something that he or she has experienced with the practice over the last week. Topics can include things that are going well, or things that the person is having difficulty with, or is disappointed about. While the participant is sharing his or her experience with the partner, the other person (the listener) looks at the exercise partner and gives the other person his or her fully present, attentive, and engaged presence. Once the partner has concluded, in response to everything that is shared, the listener simply says "Thank you." Then the roles are switched and the process is repeated. This time the one who spoke earlier takes the role of a listener and simply says "Thank you" in response to the other's sharing of their experiences with the practices over the last week. At the end of the exercise, the two partners discuss how the practice was for them—both from the perspective of the person sharing and the perspective of the person listening. Course after course, these small-group and partner exercises are reported as being some of the most impactful experiences of the CCT program. These partnered exercises allow for the experience of compassion in action in a simple, powerful, and meaningful manner.

The Six Steps of Compassion Cultivation Training

The content of CCT consists of six steps (see Table 18.1) through which participants progress over the course of the program (Jinpa, 2010; Jinpa & Weiss, 2013). Step 1 involves settling and focusing the mind, which is considered to be a basic skill essential for any form of mental reflection. For example, participants start with a preliminary "cleansing breath" exercise consisting of deep, diaphragmatic breaths. Subsequent breathing practices include silent mental counting of breath inhalation-exhalation cycles and resting the mind on the awareness of the movement of one's breath. Participants are encouraged to observe thoughts and emotions in a dispassionate, purely observational manner, a basic element of mindfulness practice and part of the psychoeducation on noticing the habitual patterns of our mental content. The overarching theme is fostering mental awareness as a foundation for all subsequent meditation practices. The breathing practices precede each of the compassion-focused meditations throughout the CCT course.

Table 18.1 The Six Steps of the Compassion Cultivation Training (CCT) Course		
Ses- sion	Step	Main Content
1	1	Introduction to the course and to settling and focusing the mind
2*	1	Settling and focusing the mind
3	2	Loving-kindness and compassion for a loved one
4	3a	Compassion for oneself
5	3b	Loving-kindness for oneself
6	4	Embracing shared common humanity and developing appreciation of others
7	5	Cultivating compassion for others
8	6	Active compassion practice (tonglen)
9		Integrated daily compassion cultivation practice (steps 1-6)

^(*) When the course is taught in an eight-week format session, 2 is dropped.

In step 2, participants practice *loving-kindness* and *compassion for a loved one*. This involves connecting with the natural ability within each person to feel care, love, and compassion for another person. Throughout CCT, participants are encouraged to cultivate feelings of warmth, tenderness, concern, and connectedness, and to notice the embodied sensations that co-arise with these feelings. We begin with a loved one because it can be easier for most participants to extend feelings of (p. 241) warmth, tenderness, concern, and connectedness to this loved person before pivoting and extending the field of view to include oneself, acquaintances, and adversaries.

In step 3, participants learn to cultivate *loving-kindness* and *compassion towards oneself*. This practice can be challenging for some participants. Thus, these practices are spread out over two weeks to provide ample time to lean into this experience slowly. Participants are trained to cultivate compassion for themselves by gradually generating attitudes of self-acceptance, non-judgment, and tenderness towards themselves (step 3a). Next, participants practice loving-kindness towards themselves, which includes focusing on the qualities of warmth, appreciation, joy, and gratitude (step 3b). Together, this processes composes Step 3, which is considered to be a critical (and challenging) step, as it is important to genuinely connect with one's own feelings, needs, and experiences, and engender loving-kindness and compassion toward oneself.

Step 4 shifts to establishing the basis for compassion towards others. Two key elements are emphasized for generating genuine compassion towards others. First, common humanity, or the recognition of the similarity of the fundamental needs and aspirations between oneself and others, involves the recognition of the shared human desire for happiness and freedom from suffering. Common humanity, or this "just like me" perspective, is considered to be essential for empathy; i.e., the ability to take the perspective of another. In CCT, compassion towards others is cultivated progressively, from easier to more challenging targets. This is done explicitly to scaffold the cultivation of compassion. The sequence of training begins with a loved one, then a neutral person, a difficult person, ingroup, and out-group, and eventually extending to all living beings. This sequence optimizes the depth and stability of compassion. The goal is to cultivate a universal compassion that encompasses all beings. This serves as a basis for cultivation of the second insight; namely, an appreciation of the de facto interconnectedness of all beings. For example, participants recognize and acknowledge how they depend on countless others for basic survival (e.g., food and shelter) and for their personal well-being (e.g., safety and education). In this regard, participants are encouraged to generate feelings of gratitude towards others known and unknown who have supported them both directly and indirectly. This insight overrides the overlearned habitual tendency to perceive and treat others as separate, independent, and disconnected beings. Instead, a more refined perspective is generated that understands the vast and profoundly interconnected nature of all beings. This discernment engenders an expansive compassion that gives rise to a universal sense of belonging, an interdependence of self and others, and a willingness to take action to alleviate pain, confusion, and suffering in the world.

Step 5 extends the prior step by cultivating compassion towards *all beings*. As in step 4, here, participants focus on a loved one, a neutral person, and a difficult person, and finally expand their circle of compassion and concern to include all humanity. It is through this recognition that participants understand that, just as they do, all others also wish to experience happiness and freedom from suffering. Thus others also are deserving of happiness and freedom from suffering. Participants cultivate the mentality that the whole world depends on giving and receiving kindness and compassion. It helps participants feel part of something larger and can help put one's life in perspective with the world.

The sixth step of CCT is referred to as *active compassion practice*. In this step, participants are generating the wish to do something about the suffering of others. A formal sitting practice that is introduced in this part of the course comes from a Tibetan practice called *tonglen*, or "giving and receiving." In this practice, participants visualize taking away the suffering (including destructive thoughts and behaviors) of others, and then visualize offering to others whatever will bring ease and peace of mind, happiness, well-being, and freedom from suffering. This is an advanced type of compassion practice that builds on everything that came before. *Tonglen* requires self-confidence, great mental and emotional stability, and willingness to let go of self-interests and instead focus on promoting the well-being of others.

In the last CCT class, the instructor introduces a final practice that is considered an integration of the six steps into a single unified compassion meditation practice. This integrated practice progresses through settling and focusing the mind, loving-kindness and compassion for a loved one, loving-kindness and self-compassion, establishing the basis for compassion towards others, cultivating compassion towards others, and active compassion or *tonglen* practice. The goal is to provide participants with a single integrated meditation that they can implement as a daily practice after the course has concluded. While not exhaustive of all the different methods for training, CCT offers a comprehensive, (p. 242) logical set of meditation practices that aim to cultivate a solid personal foundation in compassion.

Compassion Cultivation Training Instructors

CCT courses are taught by a certified teacher (for a directory of certified CCT teachers, please visit http://ccare.stanford.edu/education/cct-directory). Although not as common, in some circumstances and conditions, having a co-facilitator (who is also a certified CCT teacher) is an appropriate accommodation for the course. Instructor qualifications for the CCT program include having one's own formal meditation practice spanning a variety of compassion practices, and having experience teaching meditation practices. Advanced training in psychology is highly recommended, though not required. Applicants for the CCT teacher training program are selected from an international pool of professionals from a variety of backgrounds and industries who wish to deepen their ability to share the science, philosophy, and practice of compassion. Qualified applicants participate in a year-long teacher-training program followed by a period of supervised teaching of CCT by

a senior CCT instructor through the Center for Compassion and Altruism Research and Education (CCARE) at Stanford University.

In addition to retreats where meditation practice is emphasized, the year-long CCT teacher-training program consists of several academic courses, including the Science of Compassion and Philosophical Perspectives on Compassion. While in the teacher-training program, the teachers in training have access to a detailed CCT instructor manual (Jinpa, 2010), from which they teach during their period of supervised teaching and beyond. Following the year-long teacher-training program and during the period of supervised teaching, the instructor in training audiotapes and videotapes each class (recordings are submitted for certification consideration), meets periodically with the senior teacher supervising their course, meets for consultation with other teachers in training, and solicits formal, written feedback from all participants in their courses at least twice during their CCT class (these course evaluations and feedback from the course participants are also submitted as part of determining teacher certification).

Empirical Investigations of Compassion Cultivation Training

Given the increasing interest in the effects of compassion training, it is critical to develop an empirical understanding of how compassion training works, for whom it works, and what the outcomes of such training are. We have conducted studies to begin answering these questions. We conducted a controlled trial in which a community sample of adults were randomized to either nine weeks of CCT or a waitlist control group that received CCT only after completing nine weeks of no training. Our first question was to determine whether CCT produced changes in different types of compassion. Self-reported responses from participants indicated that CCT produced significant increases in their compassion for others, and decreases in fear of compassion for others, for themselves, and of being the object of compassion from others (Jazaieri et al., 2013). Importantly, CCT participants showed that they were committed to the program and dedicated, on average, 95 minutes per week to formal, audiotaped, guided meditation practice at home. While the number of at-home formal guided meditation sessions per week remained steady throughout the nine weeks of CCT, the number of informal spontaneous (i.e., unguided) compassion practices continued to increase during the nine-week CCT course. An important question that the field of contemplative science has been grappling with is whether the amount of home practice matters in terms of compassion and other CCT-related outcomes. We conducted an analysis to test this question and found a meditation dose response. Specifically, increases in home meditation practice predicted several CCT-related changes, including decreases in worry, emotional suppression, and mind-wandering to unpleasant topics, and increases in compassion for others (Jazaieri et al., 2014; Jazaieri et al., 2016).

We also wanted to know whether CCT produces changes in other factors that are important for mental flexibility, interpersonal effectiveness, and compassionate behavioral engagement in the world. CCT resulted in significant changes in *emotion experience*

(increases in positive affect and decreases in negative affect and perceived stress), *emotion regulation* (increases in cognitive reappraisal and acceptance, decreases in suppression of emotion), and *cognitive regulation* (increases in mindfulness skills, decreases in mind wandering and negative rumination) (Jazaieri et al., 2015; Jazaieri et al., 2014). With regards to mind wandering, prior to CCT, participants reported mind wandering about 59.1% of the time, a rate higher than what has been reported in general community samples (46.9%; Killingsworth & Gilbert, 2010). However, following CCT, we observed a reduction in the tendency for the mind to wander, particularly to unpleasant thoughts. We have also found a significant reduction in the number of self-reported psychiatric symptoms on the Symptom-Checklist-27 (Hardt et al., 2004) in this adult community sample (Jazaieri et al., 2014), which raises the question of whether, and how, and for whom CCT might be useful as an adjunct to current clinical interventions for patients with psychiatric problems such mood and anxiety disorders.

We were also interested in examining whether intrapersonal changes were related to interpersonal changes. We tested this in multiple ways. CCT resulted in significant decreases in anticipatory anxiety and anxiety during social interactions. This is important because an implicit goal of compassion training in general and CCT specifically is the transfer from internal commitment and skill-building to compassionate engagement in the world. We further tested the impact of CCT on empathic concern for others by using a set of provocative video clips showing adults describing personally painful social situations in which they suffered a loss of dignity (Goldin et al., in preparation). We presented several such video clips to participants before and again after CCT, along with several probes of emotion awareness and empathic concern for others. The results were robust and indicated a very clear pattern. CCT produced significant decreases in specific maladaptive form of emotion-regulation called expressive suppression. This refers to suppressing one's own emotional expression such that others would not be able to discern one's current emotional state. Regression analysis found that pre-to-post-CCT decreases in expressive suppression significantly predicted CCT-related increases in the participant's detection of their own and the videotaped person's emotional state, as well as increases in the participant's levels of caring, willingness to help, and amount of time offered to the videotaped person. These findings emphasize the impact of CCT on emotional awareness and interpersonal caring.

Our next question focused on whether CCT produced any meaningful change in caring behavior (Jazaieri et al., 2016). To examine this question, we implemented daily experience sampling methods that included assessment every day for one week prior, nine weeks during, and one week after CCT. This entailed automated assessment twice a day for each CCT participant via smartphones at random times, once in the morning and once in the evening. To facilitate understanding, we provided participants with a list of examples of self and other caring behaviors (see list of behaviors (p. 243) in Jazaieri et al., 2015) one week before starting CCT. We asked several questions regarding affect, meditation practice, and caring behaviors at each automated assessment. The findings indicated that, over nine weeks of CCT, participants varied significantly in their week-to-week levels of caring behaviors toward themselves (e.g., "Refrained from criticizing myself";

Page 10 of 14

"Asked for help from others when I needed such help"; "Let myself rest and relax"). Engaging in caring behaviors probably reflects changes produced by specific components of CCT during training. In contrast, over time there was a small but significant increase in the tendency to engage in caring behaviors focused on others (e.g., "Did a favor for someone"; "Volunteered time to someone else"; "Gave someone a compliment"). This asymmetry reflects an observation that occurs frequently during CCT (and in other contemplative training)—that generating loving-kindness and compassion focused on others is easier, perhaps more intuitive, than generating loving-kindness and compassion toward oneself. This inequality in caring behavior is a very important issue in contemplative training and clinical intervention work. However, when we then asked whether daily meditation practice influenced caring behavior, our analyses elucidated a very promising pattern. Averaged across all the daily experience samples over nine weeks, whether or not a person had done meditation practice at home on that day influenced the frequency of caring behaviors significantly. Specifically, when a person had practiced meditation that day, the probability of an other-focused caring behavior increased by 3.5 times. This was an expected finding, as increasing other-focused caring behavior is an explicit goal of CCT. Surprisingly, we found that prior meditation that day increased the probability of self-caring behaviors by 6.5 times, suggesting an even stronger link than was evident with otherfocused caring behavior. Furthermore, when we analyzed the influence of self and other caring behaviors on each other, we found a non-directional positive relationship: if someone did a self-care behavior, then that person was 9.3 times as likely to do an other-care behavior (or vice versa). These findings are very promising; however, they need to be replicated in a different sample with a variety of other CCT instructors before we can be fully confident that they are reliable, reproducible, and meaningful.

One more important research question was focused on identifying specific features or characteristics that participants have prior to starting CCT (p. 244) that predicts CCT-related changes (Goldin et al., in preparation). The moderator analyses we conducted determined that gender influenced self-compassion. When examining pre-to-post-CCT changes, compared to females, males demonstrated significantly greater decreases in fear of selfcompassion. Even though everyone showed improvement in self-compassion, men benefitted even more than women. One explanation for the gender moderation of self-compassion is that at baseline, prior to CCT, compared to men, women have higher levels of compassion for themselves and for others. Thus, there is more room for men to improve with CCT. Gender was also associated with other CCT-outcomes: women (vs. men) experienced greater self-esteem and satisfaction with life, as well as fewer depression symptoms and social-interaction anxiety. Prior experience with meditation retreats, regular meditation practice, and regular yoga practice at baseline each predicted greater improvement in compassion for self and for others. These moderator findings are provocative in that they make us reflect on who benefits from CCT and in what domains. How would we modify specific components of CCT to better serve people with different characteristics and prior life experiences? Is there a way to modify CCT to amplify its impact in men and women, respectively? Or is compassion training really gender-blind? Furthermore, what type and "dose" of prior yoga and meditation practice might be optimal to enhance the effective-

Page 11 of 14

ness of CCT? The data suggest stronger benefits in women (vs. men) for symptoms of depression and anxiety, self-esteem, and life satisfaction, but for how long are these benefits sustained after CCT is done? Clearly, these findings are very promising and suggest that CCT may have robust beneficial effects in adult community samples. However, they need to be replicated in multiple groups with a variety of other CCT instructors before we can be fully confident that they are reproducible, valid, and meaningful.

Conclusion

Compassion's time has come, and the future for CCT is bright. CCT has been offered in a variety of organizations and settings, including Stanford University (e.g., for continuing education, undergraduates, school of business, medical school), University of California–Berkeley, University of California–Davis, Google, nonprofit organizations, outpatient cancer clinics, inpatient healthcare settings and hospitals, and even in the United States Department of Veterans Affairs, both to healthcare providers and to U.S. veterans suffering from post-traumatic stress disorder (PTSD).

Beyond the field of clinical science, the importance of compassion and its empirical study have begun to emerge in the fields of business (e.g., Allred, Mallozzi, Matsui, & Raia, 1997; Molinsky, Grant, & Margolis, 2012), education (e.g., Wear & Zarconi, 2008), health care (e.g., Papadopoulos & Ali, 2015), and beyond. There is tremendous interest and potential in the scientific examination of compassion training. However, much more research needs to be done to address many pertinent issues. Who is most likely to benefit from compassion training? What are the specific characteristics that make a person more or less ready to learn compassion meditation? Might there be one or several optimal sequences of contemplative training; for example, beginning with mindfulness meditation for some period, short-term meditation retreats, and then compassion meditation training? While there are specific meditation practices and programs that focus on compassion for self or for others, we currently know very little about how these two facets of compassion (self versus other) change over time with different training. Furthermore, with the introduction of online training courses and resources, we need to determine the person-specific variables and class context features that determine whether someone is best suited for individual vs. group and in-person vs. online training experiences. While there is preliminary evidence for the potential for integrating compassion practices as adjunct components of current clinical interventions (e.g., Linehan, 2014) or as stand-alone interventions (e.g., Gilbert, 2010), we need studies that investigate which practices may facilitate changes in clinical symptoms and functioning in different populations (e.g., major depression, anxiety disorders, caregiver burnout, and so forth). Given that so much suffering and discontent arises in the workplace, we need controlled studies that empirically test how compassion practices affect teams embedded in different types of organizations.

Finally, compassion may be an important part of social justice. Specifically, more studies are need that examine multileveled social hierarchies and how compassion training influ-

ences the interactions between different levels of society (e.g., privileged versus underrepresented groups; high versus low political power in groups; wealthy versus poor). In summary, the promise for a scientific understanding and practical integration of compassion practices is clear. However, there is need for more refined (p. 245) research to understand how best to train individuals, teams, and organizations in compassion skills and how best to support sustained development of compassion.

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