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BRIEF ARTICLE



## Compassion meditation increases optimism towards a transgressor

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### ABSTRACT

Past research reveals important connections between meditative practices and compassion. Most studies, however, focus on the effects of one type of meditation (vs. a no-intervention control) on a single expression of compassion (e.g. offering a seat) towards a relatable target (e.g. a person on crutches), without exploring possible mechanisms. Hence, few studies include different types of meditation, active controls, multiple ways to express compassion, unrelatable targets, and potential mediators. To this end, the present study compared the effects of mindfulness meditation with those of compassion meditation on different expressions of compassion towards a convicted murderer. Seventy-four participants were randomly assigned to a mindfulness meditation, compassion meditation, or active control class, or a no-class control. After an 8-week programme, we assessed compassion by giving participants the option of fulfilling a murderer's request that they write him and then coding those letters for empathy, sympathy, forgiveness, and optimism. Participants in the compassion meditation class wrote more optimistic letters compared to participants in the other three conditions, in part because they valued positivity more. No statistically significant differences emerged for the other expressions of compassion. We discuss the implications of these findings for our understanding of how meditation increases compassion towards unrelatable targets.

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News coverage of mass shootings and other crimes exposes us constantly to transgressors, who often end up in prison. Rarely are our first responses to these transgressors feelings or expressions of compassion. Instead we typically feel anger and contempt toward these transgressors because we feel compassion for their victims. What would it take to feel and express compassion towards transgressors, who in many cases were once victims themselves? The present paper explores the utility of meditative practices in fostering compassion for transgressors. Indeed, in our coalescing world, we interact daily with people from different political, religious, and national backgrounds who have not committed crimes but who might be difficult to relate to and feel compassion towards for other reasons.

### Definition of compassion

Compassion is the sensitivity to the pain or suffering of another person, coupled with a deep desire to alleviate that suffering (Goetz, Keltner, & Simon-Thomas, 2010). Compassion is multifaceted (e.g. Goetz et al., 2010; Ministero, Poulin, Buffone, & DeLury, 2018) because there are multiple ways to be sensitive to the pain of another person. Assuming a multifaceted approach to compassion is important given cultural, individual, and situational differences in how people respond to others' suffering. Previous work examined cultural differences in how people respond to learning that an acquaintance has lost a loved one (Koopmann-Holm & Tsai, 2014). When responding to another's pain by sending a sympathy card, U.S. Americans

prefer to express optimism, whereas Germans prefer to express empathy. Indeed, another study found individual and cultural differences in what people consider a compassionate response to be (Koopmann-Holm, Bruchmann, Pearson, & Fuchs, 2019). While for some people, being optimistic and focusing on the positive were seen as “compassionate”; for others, acknowledging the pain and focusing on the negative were seen as “compassionate.”

There may be situational differences as well. In the context of responding to a transgressor, forgiveness may also be considered an expression of compassion. When people forgive someone, they consciously decide not to retaliate even when that person may deserve some punishment (Gilbert, 2005). Thus, in this paper, we examine multiple components and expressions of compassion, such as the desire to help, empathy, sympathy, optimism, and forgiveness.

### **Previous research on meditation and compassion**

Because Buddhist tradition suggests meditative practice may be one way of promoting compassion (e.g. Jinpa, 2010), several scholars have examined whether Buddhist-inspired meditation fosters prosocial behaviour. Although recent reviews have critically evaluated mindfulness meditation research (e.g. Davidson & Dahl, 2018; Van Dam et al., 2018), none of these reviews have focused on the effects of meditation on compassion. Although existing studies demonstrate benefits of meditation for compassion, most of these studies are limited in at least one of the following ways.

*First, most studies focus on one type of meditation without an active control group.* Previous studies with waitlist, or more rarely, active control groups typically include one type of meditation or compassion training (e.g. Weng et al., 2013), making it unclear what specific aspects of training (e.g. meditation in general or a specific type of meditation such as compassion meditation) result in increased compassion. While Condon, Desbordes, Miller, and DeSteno (2013) included mindfulness and compassion meditation, they compared these two types of meditation to a wait-list control like most studies on compassion (e.g. Kemeny et al., 2012). Lim, Condon, and DeSteno (2015) did use an active control, but compared it to a mindfulness meditation course only. And among studies that do include active controls, few include active controls that are structurally equivalent to the target

intervention and that include non-specific factors that might also enhance compassion. Structural equivalence of interventions is important for a successful isolation of the independent variable, meditation in our case, holding constant other variables such as amount of time spent with a caring teacher, doing homework, and learning a new skill. Because past research often confounds meditation with these other variables, it remains unclear whether and what type of meditation training specifically influences compassion.

In our study, participants were randomly assigned to one of four conditions: a mindfulness meditation class, a compassion meditation class, an improvisational theatre class (our active control), or a no-class control. While mindfulness meditation focuses on being present in the moment, compassion meditation focuses on recognising that everyone has a wish to be happy. Improvisational theatre was an ideal active control because previous research has shown role-playing increases empathy and theory of mind (Goldstein & Winner, 2012). Furthermore, the improvisational theatre class was structurally equivalent to the mindfulness and compassion meditation classes in our study (i.e. led by experienced teachers in group settings for two hours each week during the 8-week programme, taught new skills, and assigned written materials and homework). In addition, we advertised the study as “health improvement study” to reduce experimental demand and to ensure equal expectations of intervention success across programmes.

*Second, most studies focus on neutral or positive targets.* In previous research, targets of compassion tend to be neutral targets or targets with whom one can relate (e.g. Condon et al., 2013). In the real world, however, there are many people with whom we feel no immediate connection. For instance, we cannot readily feel empathy for prisoners who have committed violent crimes. Indeed, Buddhist conceptualizations of compassion explicitly include the dimension of *extensivity*, the notion that people can feel compassion towards all beings, including transgressors (Dalai Lama, 2002). From the Buddhist perspective, whether an individual can relate to a target is not a necessary criterion of compassion. While research suggests that mindfulness meditation attenuates aggression towards transgressors (DeSteno, Lim, Duong, & Condon, 2018), studies have not yet examined whether meditation can increase compassionate behaviour per se towards transgressors. To fill this gap, we examined whether

participants who engaged in compassion meditation were more likely to express compassion towards a convicted murderer compared to participants in the other three groups.

*Third, most studies focus on limited expressions of compassion.* Most studies examine whether meditation alters the occurrence of one situationally-defined compassionate behaviour (e.g. offering a seat to someone in need, helping an ostensible virtual study partner). However, as reviewed above, compassion can be expressed in different ways. Therefore, in the present study, we assumed a multi-componential approach to assessing compassion to allow for individual and cultural differences in what people regard as compassionate response (e.g. Koopmann-Holm et al., 2019). We assumed that if people read a post written by a prisoner who was serving a lifetime sentence for murder, who writes about his suffering in prison and life in general, and who asks readers to write him, the act of fulfilling a prisoner's request for a letter is a compassionate act, reflecting an empathic concern and desire to help (Ministero et al., 2018). We also examined the length of the letters as an indirect measure of how much time and/or effort people put into helping. Finally, we were interested in the content of the letters. While some participants might express empathy and sympathy, others might express optimism, and some might even write about forgiveness in their letters. Therefore, we also assessed how much empathy, sympathy, optimism, and forgiveness participants expressed in their letters.

*Fourth, few studies explore underlying mechanisms.* Although most studies have shown that meditation alters the occurrence of specific behaviours, few studies examine *how* (e.g. Lim et al., 2015). We predicted that because compassion meditation teaches people that everyone wants to be happy and free of suffering, compassion meditation would make people focus on the desire to feel positive (other people's desire as well as their own desire for happiness). Hence, compassion meditation would make people want to feel positive more than the other interventions. Believing that everyone – even transgressors – has a wish to be happy may humanise transgressors and other unrelatable targets, and as a result, increase people's compassion toward them. Moreover, past research suggests that high levels of compassion lead to high levels of hostility, but only among people who focus on preventing negative outcomes (Keller & Pfattheicher, 2013). In our study, focusing

participants' attention to people's desire for happiness (i.e. promoting a positive outcome) might reduce this hostility, which might be especially important in the context of a transgressor, who may easily elicit hostility. Thus, we examined the valuation of positive affect as a potential explanatory variable (i.e. mediator) for the relationship between compassion meditation and expressions of compassion towards a transgressor. Because individual and cultural differences exist in the specific positive states that people value (e.g. Tsai, Knutson, & Fung, 2006), we included positive states with varying levels of arousal (e.g. happy, excited, and calm).

## Hypotheses

First, we predicted that participants in the improvisational theatre class would show more compassion (i.e. write more letters, longer letters, and more empathic, sympathetic, optimistic, and forgiving letters) than those in the no class control, because previous research suggests that acting can increase empathy (Goldstein & Winner, 2012), a compassion-related state (Goetz et al., 2010). Second, we predicted that participants in the mindfulness meditation class would show compassion more than those in the improvisational theatre class and the no class control because previous findings demonstrate that mindfulness meditation promotes compassion at least towards strangers (Condon et al., 2013). Finally, we predicted that participants in the compassion meditation class would show the most compassion compared to the other three groups, because compassion meditation specifically acknowledges that everyone – including transgressors – deserves to be happy and free of suffering (Jinpa, 2010). Furthermore, we predicted the valuation of positive states would explain (i.e. mediate) increases in compassion through compassion meditation, compared to the other three groups.

## Method

We recruited 96 female students (mean age of 21.13 years,  $SD = 3.49$ ) to participate in a "health improvement program study." They had no prior experience with meditation or improvisational theatre and were randomly assigned to either a compassion meditation class, a mindfulness meditation class, or one of two control groups, either an improvisational theatre class or a no class control group. Seventy-four participants finished the study (17 in compassion

meditation, 19 in mindfulness meditation, 16 in the improvisational theatre control, 22 in no class control). There were no significant differences in the percentage of participants who dropped out of each group ( $\chi^2 [3, 96] = 5.51, ns$ ). There were also no significant differences between groups in the amount of time spent in class and doing homework ( $ps > .37$ ). Participants attended 6.98 ( $SD = 1.00$ ) out of the eight classes and spent 1.50 h ( $SD = 2.11$ ) doing their homework each week.

To determine ideal class sizes, we consulted with the teachers of the classes, who suggested around 20 students (which reflects their regular class sizes). The classes met once a week for two hours over eight weeks. Please refer to the supplemental material as well as Koopmann-Holm, Sze, Ochs, and Tsai (2013) for a detailed description of the sample, procedures, and classes. Although the present paper is based on the same dataset as the paper by Koopmann-Holm et al. (2013), the present paper focuses on an entirely different set of variables. While Koopmann-Holm et al. (2013) examine how compassion and mindfulness meditation increase how much people value and actually experience calm and other low-arousal positive states, the present paper examines the effects of meditation on compassionate behaviour and on the valuation of *general* positive states as a possible mediator of these effects.

After eight weeks, participants completed the Affect Valuation Index (AVI; Tsai & Knutson, 2006) online to assess actual, ideal, and avoided affect. Although we were specifically interested in ideal positive affect, we included actual and avoided affect to ensure our findings were specific to ideal positive affect. Participants rated how often they actually felt, how often they ideally wanted to feel, and how often they wanted to avoid feeling 37 different affective states over the course of a typical week on a five-point scale ranging from 1 ("never") to 5 ("all the time"). We created aggregate scores for ideal and actual positive (i.e. enthusiastic, excited, elated, calm, relaxed, serene, happy, content, satisfied), as well as for avoided and actual negative (i.e. fearful, hostile, nervous, dull, sleepy, sluggish, sad, unhappy, lonely) states. Cronbach's alphas ranged from .85 to .98 for these composites.

Close to the end of the online survey, after participants read a letter from a prisoner who was serving a life-time sentence for murdering a friend (see [Appendix](#)), participants were asked questions about the prisoner (e.g. how much they thought the prisoner

deserved the situation he is in). Participants were then told they had completed the study but that the researchers had been allowed to use the letter from the prisoner under the condition that participants would be given the option to write to the prisoner. Participants then had the option to type a letter into a text box and were told the letter would be sent to the prisoner. Importantly, because participants completed the measures online at a place and time convenient for them and out-of-sight of the experimenter, they presumably did not feel pressure from our research team to write the letter.

To assess compassionate behaviour, we coded whether participants wrote a letter or not (1 = letter written; 0 = no letter written), and used the Linguistic Inquiry and Word Count Program (LIWC; Pennebaker, Francis, & Booth, 2001) to calculate the total number of words each participant wrote. We did not use the LIWC to code the content of the letter because the internal LIWC dictionary does not contain categories that relate to empathy and sympathy. Furthermore, LIWC measures word frequency regardless of context. Therefore, to examine the content of the letters, two research assistants blind to participant condition and study hypotheses coded how many instances of empathy (e.g. "I feel your pain"), sympathy (e.g. "I am sorry"), optimism (e.g. "you can do it"), and forgiveness (e.g. "forgive yourself") were contained in the letters. Inter-rater reliability was high (Cohen's kappas: empathy = .91; sympathy = .89; optimism = .72; forgiveness = .82). Participants who did not write a letter received zeroes for these codes.

## Results

To test our predictions and to maximise power, we entered three orthogonal planned contrasts into a logistic regression (for whether participants wrote or not) or linear regressions (for number of words and instances of empathy, sympathy, optimism, and forgiveness). We examined whether there was a difference (1) between the two control conditions (no class control and improvisational theatre class), (2) between mindfulness meditation and the average of the two control groups, and (3) between compassion meditation and the average of the other three groups.

Contrary to hypotheses, participants in the four groups did not statistically significantly differ in the percentage who wrote to the prisoner (No Class Control: 50.00%; Improvisational Theater: 56.25%; Mindfulness Meditation: 42.11%; Compassion

Meditation: 64.71%;  $\chi^2 [3, 74] = 1.98, p = .58$ , Cramer's  $V = .16$ ; results are the same when we enter the three orthogonal contrasts into a logistic regression: all  $ps > .27$ ). Also contrary to hypotheses, no statistically significant differences emerged in the length of the letter except for a marginally statistically significant difference between compassion meditation and the other three groups (see Table 1 for mean number of words;  $ps$  for the first two contrasts  $> .42$ ; the third contrast:  $B = 14.52 [95\% \text{ CI}: -.31 \text{ to } 29.34], SE = 7.43, t[70] = 1.95, p = .06$ , Cohen's  $f^2 = .06$ ). We also did not find any statistically significant differences in how much *empathy* ( $ps$  for all three contrasts  $> .30$ ), *sympathy* ( $ps$  for all three contrasts  $> .35$ ), or *forgiveness* (no letters contained forgiveness) participants expressed in their letters (see Table 1 for means and correlations between variables).

However, as depicted in Figure 1, and consistent with our third hypothesis, we did find differences in *optimism* ( $ps$  for the first two contrasts  $> .45$ ; the third contrast:  $B = .24 [95\% \text{ CI}: .11 \text{ to } .38], SE = .07, t [70] = 3.60, p = .001$ , Cohen's  $f^2 = .19$ ). This effect remained statistically significant after using the Holm–Bonferroni step-down approach to control the family-wise error rate ( $p_c = .01$ ). Participants in the compassion meditation class were statistically significantly more optimistic towards the prisoner than were participants in the other three groups.<sup>1</sup>

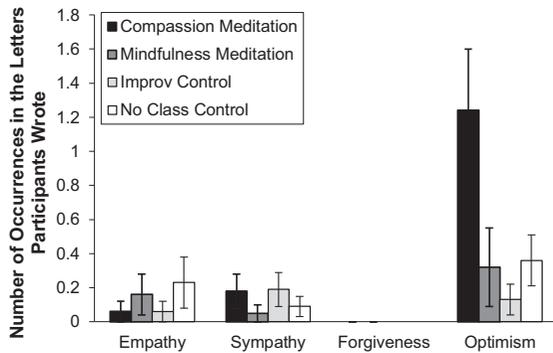
We then examined whether the degree to which participants valued positive affect mediated the difference in optimism between compassion meditation and the other three groups by using Hayes' PROCESS Macro (Model 4) for SPSS (Hayes, 2013). The dummy variable comparing compassion meditation with the other three groups was entered as independent variable; instances of optimism were entered as outcome variable, and ideal positive affect was entered as mediator. We also entered actual positive affect (i.e. the degree to which people actually feel positive), avoided negative affect (i.e. the degree to which people want to avoid feeling negative), and actual negative affect (i.e. the degree to which people actually feel negative) into the model to account for overlap between actual and ideal positive affect as well as between actual and avoided negative affect (see Table 1).

As hypothesised, compassion meditation statistically significantly predicted ideal positive ( $B = .11 [95\% \text{ CI}: .02 \text{ to } .19], SE = .04, t[72] = 2.36, p < .05$ , Cohen's  $f^2 = .08$ ), but not actual positive affect ( $B = .07, SE = .04, t[72] = 1.48, p = .14$ ), avoided negative affect ( $B = .12, SE = .10, t[72] = 1.23, p = .22$ ) or actual

Table 1. Means and standard deviations (in parentheses) of variables by group and pair-wise correlations.

	r												
	Mindfulness meditation	Compassion meditation	Improvisational theatre	No-class control	NWL	E	S	F	O	IP	AP	AN	ANA
Number of Words in Letter (NWL)	68.21 (103.27)	117.18 (159.87)	40.44 (48.64)	68.68 (90.20)									
Empathy (E)	.16 (.50)	.06 (.24)	.06 (.25)	.23 (.69)	.44**								
Sympathy (S)	.05 (.23)	.18 (.39)	.19 (.40)	.09 (.29)	.24*	.07							
Forgiveness (F)	0 (0)	0 (0)	0 (0)	0 (0)									
Optimism (O)	.32 (1.00)	1.24 (1.48)	.13 (.34)	.36 (.73)	.72**	.11	.10		.29*				
Ideal Positive Affect (IP)	3.86 (.62)	4.23 (.66)	3.78 (.57)	3.77 (.73)	.11	-.20	.10		.16	.51**			
Actual Positive Affect (AP)	3.02 (.73)	3.14 (.78)	2.91 (.49)	2.72 (.56)	.12	-.05	-.04		.02	-.31**			
Actual Negative Affect (AN)	2.06 (.44)	2.02 (.68)	1.99 (.36)	2.15 (.46)	.00	.02	.18		-.03	.02			
Avoided Negative Affect (ANA)	3.45 (1.46)	3.92 (1.43)	3.71 (1.38)	3.22 (1.46)	-.04	-.13	.08		-.05	.36**	.07		.18

\* $p < .05$ ; \*\* $p < .01$ .



**Figure 1.** Number of occurrences of empathy, sympathy, forgiveness, and optimism in the letters written by participants in the four groups.

negative affect ( $B = -.01$ ,  $SE = .03$ ,  $t[72] = -.40$ ,  $p = .69$ ). The direct effect of compassion meditation on optimism was also statistically significant ( $B = .22$  [95% CI: .08 to .35],  $SE = .07$ ,  $t[68] = 3.16$ ,  $p < .01$ , Cohen's  $f^2 = .29$ ). Furthermore, as hypothesised, a statistically significant indirect effect of compassion meditation on optimism through ideal positive affect emerged. The effect was estimated to lie between .002 and .144 with 95% confidence interval using Hayes' (2013) bootstrapping macro with 10,000 bootstrap samples.<sup>2</sup>

## Discussion

In the present study, we addressed limitations of most studies of meditation on compassion by including two kinds of meditation (mindfulness and compassion) as well as an active control (improvisational theatre) and a no class control, focusing on a less relatable target, measuring different expressions of compassion, and examining one possible mechanism.

With this design, we observed no statistically significant group differences in the desire to help: At least half of participants across conditions wrote letters. There were also no statistically significant differences in how much time and/or effort participants put into helping (i.e. the length of the letters) or in how empathic, sympathetic, or forgiving participants were in their letters to the convicted murderer. Participants in the compassion meditation condition did, however, write statistically significantly more optimistic letters than participants in the other three conditions, in part because they valued positive states more after the compassion meditation class compared to the other three groups.

The relatively small effects in our study might be due to the fact that we examined compassion

towards a convicted murderer, for whom compassion may be the hardest to feel. Quite often, increases in compassion for a victim lead to increases in hostility towards a transgressor ("Compassion-Hostility Paradox"; Keller & Pfattheicher, 2013). If participants felt compassion towards the person the prisoner murdered, they might have felt hostility towards the prisoner. Despite this possibility, participants who underwent compassion meditation training were more optimistic towards the prisoner compared to participants in the other three groups. Our mediational analysis suggests that compassion meditation may increase optimism toward a transgressor by teaching people that everyone has a desire to feel happy. This finding is in line with past research on the Compassion-Hostility Paradox: High levels of compassion lead to high levels of hostility, but only among people who focus on preventing negative outcomes (Keller & Pfattheicher, 2013). By increasing people's focus on wanting to achieve happiness (i.e. ideal positive affect), compassion meditation might reduce the focus on preventing negative outcomes. Future research is needed to assess whether this is the case.

Importantly, ideal positive affect was only weakly to moderately correlated with optimism (see Table 1), suggesting that the two constructs are related but different. While we did not experimentally manipulate ideal positive affect, which prevents us from drawing causal conclusions, we did assess ideal positive affect after the eight-week programme and before participants were given the option to write the letter, ensuring at least temporal precedence.

These findings are consistent with research suggesting that being concerned about other people increases vicarious optimism (Kappes, Faber, Kahane, Savulescu, & Crockett, 2018). In the same way that having positive expectations for one's future (i.e. optimism) is associated with better physical and mental health (Carver, Scheier, & Segerstrom, 2010), having positive expectations for another's future may also have beneficial outcomes for that person. Indeed, being optimistic about the future of someone who committed a crime may be the first step towards feeling empathy, sympathy, and forgiveness toward a transgressor. Future research should examine this possibility. In line with Nickerson (2018), participants in the compassion meditation condition did not actually feel more positively compared to the other three groups. This suggests that participants in our study might have expressed optimism because they specifically valued positive states.

As mentioned above, we surprisingly found no effects of meditation on expressions of empathy or sympathy, perhaps because empathy and sympathy are more difficult to feel towards a murderer compared to optimism. Longer meditative training may be needed to feel empathy and sympathy towards a convicted murderer. Similarly, the fact that not a single participant expressed forgiveness suggests that forgiveness may be the hardest form of compassion to express, or that participants did not feel that they were in a position to express forgiveness. These possibilities underline the importance of considering what expression of compassion is appropriate given a particular situation. Moreover, although expressions of empathy, sympathy, and optimism were all correlated with the length of the letters, they were not statistically significantly correlated with each other, supporting the idea that compassion is multifaceted.

Our findings might seem at odds with results from other studies examining the effects of meditation on compassion. For example, while Condon et al. (2013) found that both mindfulness and compassion meditation increased compassion, we only found an effect of compassion meditation. Our study differed from the Condon et al. study in how relatable the targets of compassion were. Thus, mindfulness meditation may have made participants in our study more aware of the negative emotions they felt while reading the murderer's letter. These negative emotions may have interfered with their motivation to write the prisoner. Indeed, the effects of mindfulness-based interventions on compassion are mixed (Boellinghaus, Jones, & Hutton, 2014). Future studies are needed to examine more directly the effects of different types of meditation on responses to relatable versus unrelatable targets.

Our study was limited by its relatively small sample size, and as a result, it was not well-powered to detect small effects. As described in the supplemental material, post-hoc power analyses revealed that we had power of .787 to detect previously reported medium to large population effects of meditation on compassion (Condon et al., 2013; DeSteno et al., 2018; Lim et al., 2015), but because these effect sizes were based on studies of relatable versus unrelatable targets, they may be overestimating our power. Regardless, the fact that we obtained insignificant results on some (but not all) outcome variables is noteworthy. Future studies with larger sample sizes will reveal whether smaller differences might also exist across conditions.

In sum, compassion meditation training specifically increased how optimistic people felt about a convicted murderer's future, in part by increasing the degree to which people valued happiness. These findings raise the possibility that some forms of meditation may help increase our compassion towards others, even those with whom we might not feel an immediate connection.

## Notes

1. We also conducted a univariate analysis of variance by group on optimism. The effect of group was statistically significant,  $F(3, 70) = 4.42, p = .01$ . The pairwise comparison between compassion and mindfulness meditation was also statistically significant ( $p = .01$ ).
2. As described in Koopmann-Holm et al. (2013), we also have baseline measures of ideal affect. The results did not change when we included baseline ideal affect as covariate in our mediational analysis.

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Thupten Jinpa is the principal author of the manual for one of the interventions being studied (i.e. Compassion Meditation). BKH: designed and executed the study, analyzed the data, and wrote the paper. JS: designed the compassion measure used in this study. TJ: wrote the compassion meditation manual. JLT: designed the study, secured the funds for the study, and collaborated in the writing and editing of the manuscript.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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## References

- Boellinghaus, I., Jones, F. W., & Hutton, J. (2014). The role of mindfulness and loving-kindness meditation in cultivating self-compassion and other-focused concern in health care professionals. *Mindfulness*, 5(2), 129–138.

- Carver, C. S., Scheier, M. F., & Segerstrom, S. C. (2010). Optimism. *Clinical Psychology Review, 30*(7), 879–889.
- Condon, P., Desbordes, G., Miller, W. B., & DeSteno, D. (2013). Meditation increases compassionate responses to suffering. *Psychological Science, 24*(10), 2125–2127.
- Dalai Lama. (2002). *How to practice: The way to a meaningful life*. New York, NY: Pocket Books.
- Davidson, R. J., & Dahl, C. (2018). Outstanding challenges in scientific research on mindfulness and meditation. *Perspectives on Psychological Science, 13*, 62–65.
- DeSteno, D., Lim, D., Duong, F., & Condon, P. (2018). Meditation inhibits aggressive responses to provocations. *Mindfulness, 9*, 1117–1122.
- Gilbert, P. (2005). *Compassion: Conceptualisations, research and use in psychotherapy*. London: Routledge.
- Goetz, J. L., Keltner, D., & Simon-Thomas, E. (2010). Compassion: An evolutionary analysis and empirical review. *Psychological Bulletin, 136*(3), 351–374.
- Goldstein, T. R., & Winner, E. (2012). Enhancing empathy and theory of mind. *Journal of Cognition and Development, 13*(1), 19–37.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional analysis: A regression-based approach*. New York, NY: Guilford Press.
- Jinpa, T. (2010). *Compassion cultivation training (CCT): Instructor's manual* (Unpublished).
- Kappes, A., Faber, N. S., Kahane, G., Savulescu, J., & Crockett, M. J. (2018). Concern for others leads to vicarious optimism. *Psychological Science, 29*(3), 379–389.
- Keller, J., & Pfattheicher, S. (2013). The compassion–hostility paradox: The interplay of vigilant, prevention-focused self-regulation, compassion, and hostility. *Personality and Social Psychology Bulletin, 39*(11), 1518–1529.
- Kemeny, M. E., Foltz, C., Cavanagh, J. F., Cullen, M., Giese-Davis, J., Jennings, P., ... Wallace, B. A. (2012). Contemplative/emotion training reduces negative emotional behavior and promotes prosocial responses. *Emotion, 12*(2), 338–350.
- Koopmann-Holm, B., Bruchmann, K., Pearson, M., & Fuchs, M. (2019). What constitutes a compassionate response? The important role of culture. Manuscript in preparation.
- Koopmann-Holm, B., Sze, J., Ochs, C., & Tsai, J. L. (2013). Buddhist-inspired meditation increases the value of calm. *Emotion, 13*(3), 497.
- Koopmann-Holm, B., & Tsai, J. L. (2014). Focusing on the negative: Cultural differences in expressions of sympathy. *Journal of Personality and Social Psychology, 107*(6), 1092–1115.
- Lim, D., Condon, P., & DeSteno, D. (2015). Mindfulness and compassion: An examination of mechanism and scalability. *PLoS ONE, 10*(2), e0118221.
- Ministero, L. M., Poulin, M. J., Buffone, A. E., & DeLury, S. (2018). Empathic concern and the desire to help as separable components of compassionate responding. *Personality and Social Psychology Bulletin, 44*(4), 475–491.
- Nickerson, C. A. (2018). Overstating the effects of loving-kindness meditation: Comment on Kok et al. (2013). *Psychological Science, 29*(3), 463–466.
- Pennebaker, J. W., Francis, M. E., & Booth, R. J. (2001). *Linguistic inquiry and word count: LIWC 2001*. Mahway: Lawrence Erlbaum Associates.
- Tsai, J. L., & Knutson, B. (2006). The affect valuation index: Reliability and validity. Manuscript in preparation.
- Tsai, J. L., Knutson, B., & Fung, H. (2006). Cultural variation in affect valuation. *Journal of Personality and Social Psychology, 90*, 288–307.
- Van Dam, N. T., van Vugt, M. K., Vago, D. R., Schmalzl, L., Saron, C. D., Olendzki, A., ... Meyer, D. E. (2018). Mind the hype: A critical evaluation and prescriptive agenda for research on mindfulness and meditation. *Perspectives on Psychological Science, 13*, 36–61.
- Weng, H. Y., Fox, A. S., Shackman, A. J., Stodola, D. E., Caldwell, J. Z., Olson, M. C., ... Davidson, R. J. (2013). Compassion training alters altruism and neural responses to suffering. *Psychological Science, 24*(7), 1171–1180.

## Appendix

For 5 lonely and loathsome years now I've known exactly what it means to have hit "rock bottom." To have life stripped away leaving nothing but a hollow, rotten shell of existence. To feel utterly worthless, forgotten and detestable like a rat in a cage.

My name's Mike and I'm 23 yrs. old. I'm serving a natural life sentence (without parole) for murdering a friend of mine in a blind fit of rage. Yes, I've dealt with a lot of anger in my life, more than you "nice folk" out there could probably ever conjure up in those little heads of yours. Growing up, anger was the most familiar thing I knew. I was blinded by a hatred that grew inside of me like a raging beast. The only love I knew was the equivalent of manipulation and excuses, from a single mother who was still a child herself and blamed her kids for her misery and misfortune.

While since then I've managed to see a bit beyond the hatred and pain inside of me, here in the prison environment there is a hatred and anger so cold and fierce we must hate and be cold to survive. We are treated like mongrel dogs and have to grasp at straws accepting what we can get, it's so pathetic. Although a lot of us see our mistakes, see past our hatred and pain, we still must wear masks because if we don't blend in we will be bled out. There is a hatred so cold and fierce here on the inside, we must hate and be cold to survive, you got me? So its not all hunky dory or peaches and cream here if that's what you were thinking. Most people on the outside are so ignorant about prison life, thinking it's a time for "rehabilitation" or what have you-what a joke.

While there's little to enjoy behind these walls, especially when you've been abandoned by your entire family and the so-called friends you had on the streets, there are however a few things I find solace in. These being music, reading, writing and drawing. I find these things as an outlet to escape some of my anger and pain, or better yet to release 'em.

I don't scream innocent, I admit my guilt. I've been judged (and sentenced) already and I'm paying my dues. I'm putting up this post because although I don't have hope for freedom outside these prison walls, perhaps I can ask for some freedom outside my imprisoned mind? Not asking for your pity, just some words of hello or whatever you may be feeling ... you don't gotta be a stranger.

Simply Me,  
Mike