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Short Mindfulness Meditation Increases Help-Giving Intention Towards a Stranger in Distress

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Abstract

Objectives Mindfulness practice increases personal well-being, yet its effect on prosocial behaviors is not well-established. Initial studies suggest that an 8-week mindfulness program has a positive effect on help-giving towards a stranger in distress and that a short meditation promotes care towards an ostracized member. This research aims at examining whether a short mindfulness intervention promotes help-giving intention towards a stranger in distress and to understand the role of empathy in this effect.

Methods A total of 210 undergraduate students were randomly assigned to two sessions of mindfulness practice, music, or lecture control conditions. Participants then listened to a sham interview with a student dealing with a chronic illness and were surveyed on their willingness to volunteer in an organization helping such students. Baseline dispositional empathy and consequent empathic care scales were completed to determine their effect.

Results A significantly higher percentage of participants were willing to provide help in the mindfulness condition (50.8%), as compared to the music (31.2%) and the lecture (31%) conditions, $\chi 2$ (2, $N = 189) = 9.51$, $p = .009$. A significantly positive effect of dispositional empathy on empathic care was found in the mindfulness group ($b = 1.40$, $SE = .31$, $p < .001$), but not in the control groups.

Conclusions This study showed that short mindfulness practice increases help-giving intention as compared to active control groups and moderates the association between dispositional empathy and empathic care. Future research including long-term follow-up will strengthen these findings.

Keywords Mindfulness · Meditation · Help-Giving · Empathy · Prosociality · Empathic care · Interpersonal relationships

Human existence depends on mutual concern, yet history has taught us that in many cases strangers are reluctant to offer help. Mindfulness, which originates from the Buddhist doctrine, is aimed at cultivating kindness and moral behaviors (Dalai Lama & Ekman, 2008). For the last decades, empirical studies have demonstrated the intrapersonal benefits of mindfulness such as stress reduction (Carmody & Baer, 2008), alleviation of depression (Segal et al., 2018), and reduction of chronic pain (Weissbecker et al., 2002). Preliminary findings revealed the interpersonal benefits of mindfulness (e.g., Donald, et al., 2018; Lim et al., 2015), but this effect may be restricted to certain kinds of prosocial behaviors (Berry et al., 2020). There are mixed results regarding the role that empathic care plays in this effect (see Berry et al., 2018; Chen & Jordan, 2020). Thus, the questions of whether, when, and how mindfulness promotes prosociality remain open.

Empathy is the ability to identify what someone else is thinking or feeling and to respond with appropriate emotion (Baron-Cohen, 2012); it involves both affective and cognitive components (Davis, 2019). Literature on moral psychology suggests that empathy leads to prosocial behaviors (e.g., Batson & Ahmad, 2009). Nevertheless, current studies indicate that dispositional empathy does not necessarily lead to a motivation to alleviate the suffering of another (Gilbert, 2015). Empathy can lead to either empathic distress, which is a feeling of being flooded with the suffering of another that leads to self-protection, or empathic care, which is a compassionate response towards others leading to prosocial action (Batson, 1991; Greenberg & Turksma, 2015).

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Mindfulness meditation focuses on the cultivation of morality (Dreyfus, 2013), and has the potential to encourage empathic care and help-giving behaviors. Mindfulness is defined as awareness of the present moment accompanied by a non-reactive, non-judgmental, and compassionate attitude (Kabat-Zinn, 2015) and can be depicted as a stable trait or as a state. Trait mindfulness is an enduring aspect of personality, and it can be enhanced by practice. State mindfulness is a skill manifested in purposeful attention, which enables the practitioner to step outside of the automated process and focus on mental and physical activities which are unnoticed otherwise. When attention is no longer regulated in this way, the mindful state will cease (Bishop et al., 2004). A short intervention of mindfulness practice is expected to enhance state mindfulness.

There is initial empirical evidence for the impact of mindfulness on prosocial behavior: An 8-week intervention that included a mindfulness group, a loving-kindness meditation group, and a waiting list control group showed that meditators in both kinds of meditation were more likely to help a person in distress (Condon et al., 2013). A subsequent study that was done in a similar setting compared meditators to an active control group and pointed to empathy as an underlying mechanism of the relationship between mindfulness and prosocial behaviors (Lim et al., 2015). A later study showed that even a brief mindfulness practice can promote help-giving behavior among those witnessing ostracism in a computer game, as compared to active and inactive control groups. This study has specified empathic concern as the underlying mechanism of the prosocial effect of mindfulness (Berry et al., 2018), based on the understanding that empathy is a more general trait that fails to predict social behaviors (Mischel, 1968).

These findings promoted an important understanding regarding the effect of mindfulness on prosociality, yet some questions remain open. For example, it is not clear whether mindfulness alone can promote prosociality or its effect is dependent on baseline traits: A recent study suggested that mindfulness on its own is not prosocial, nor antisocial, but a bolster of self-awareness that leads people to act in line with their inherent social goals. Thus, among some people, mindfulness may reduce prosociality (Poulin et al., 2021). A randomized controlled trial demonstrated that mindfulness intervention enhanced help-giving intention only among participants who had a high baseline moral identity (Xiao et al., 2020). In a similar vein, a donation to a person in distress was dependent on trait empathy among participants who practiced either, mindfulness emphasizing no-harm or mindfulness focusing on mindful awareness. In addition, among low trait empathy participants, mindful awareness practice diminished charitable giving relative to control, suggesting an increase in self-indulgence (Chen & Jordan, 2020). Nevertheless, a meta-analysis demonstrated that mindfulness

practices focusing on the cultivation of prosociality have a similar effect as those focusing on mindful awareness (Donald et al., 2018). As mindfulness practice provided in this field of research is varied in terms of instructions and duration, it remains unclear what is the role of the mindful state in these effects. In addition, these studies are diverse in terms of the sort of prosocial behavior they measured, and the effect of mindfulness on the intention to provide long-term help-giving was not observed.

There are also open questions regarding bias effects: Meta-analysis that examined all kinds of mindfulness interventions and their effect on prosociality indicated relatively strong designs and low risk of bias (Luberto et al., 2018). Another meta-analysis suggested that the effects of various kinds of meditation on prosociality were limited to methodologically weak studies such as waiting lists as a control group (Kreplin et al., 2018). A correction for publication bias resulted in a negative correlation between sample sizes and effect sizes, suggesting that if all studies' sample sizes were sufficiently large their summarized effect size was unreliable (Berry et al., 2020).

The current research examined whether a short mindfulness intervention increases the intention to provide continuous help to a stranger in distress, as compared to two active control groups. In order to understand how mindfulness promotes help-giving, we also measured dispositional empathy before the interventions and empathic care afterward. We conducted two sessions in order to examine whether even a short intervention enhances prosociality. Our instructions did not include ethical contents to capture the effect of the mindful state itself and to avoid suspicion regarding the research goals. A better understanding of these questions may have implications for designing a mindfulness-based intervention to cultivate prosociality. We utilized a randomized control trial that examined the following hypotheses: (1) exposure to short mindfulness meditation will enhance state mindfulness; (2) exposure to short mindfulness meditation will increase the intention to provide help to a stranger in distress; (3) the relationship between dispositional empathy and each outcome — empathic care, volunteering, and commitment — will be moderated by mindfulness meditation.

Methods

Participants

A pooled effect size of the influence of mindfulness interventions on prosociality indicated a medium effect, $d = 0.51$ (Donald et al., 2018). In the present research, an a priori power analysis was performed using G*Power software (Faul et al., 2007) and indicated that a sample size of 144

participants ($n = 48$) is needed to detect a medium effect of condition on the dependent variables, whereas $d = 0.60$ and $1 - \beta = 0.95$. Berry et al. (2020) indicated that studies with smaller sample sizes reported higher effect sizes and that correcting for publication bias reduced mindfulness effect sizes on prosociality by as much as 25%. Accordingly, we over-sampled and recruited 210 (30 men, 180 women) undergraduates between the ages of 18 and 30 years, with no prior experience in mindfulness. Men and women were equally distributed between the trial and control groups. Three participants who did not fully attend the intervention and 18 participants who did not fully complete their questionnaires were excluded, and the final set included 189 participants (29 men, 160 women; mean age = 20.82 years, $SD = 3.39$). Each group included a baseline of 70 participants and ended with at least 60 participants, meaning that our study was well-powered to detect a medium effect. Participants received academic course credit for their participation.

Procedures

Data were collected through personal Zoom meetings and via Qualtrics software (https://www.qualtrics.com) in October–November 2020. Each participant received a unique identifying number and was randomly assigned by an automated program to one of three groups — meditation practice condition, music control condition, or lecture control condition. Participants gave informed consent and then completed a baseline questionnaire including demographic information and the Toronto Empathy Questionnaire (TEQ) to measure dispositional empathy. Then they took part in two 30-min pre-recorded sessions of mindfulness, music, or lecture, which were held 1 week apart. The meditation group practiced two identical video-guided meditations recorded by a mindfulness teacher with 10 years of experience. The practice was based on Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 2005) general principles of meditation. The instructions included a step-by-step body scan, observation of the natural breathing process, and introspection on mental processes including thoughts and feelings, together with an emphasis on non-judgmental awareness (see a link to the full practice in supplementary materials). The lecture control group watched two different lectures on empathy and help-giving to examine whether meditation practice has an added effect beyond rational learning. The music control group listened to two sessions of monotonous classical music to examine whether meditation practice has an added effect beyond relaxation. Several studies have indicated that classical and instrumental music cause relaxation responses (e.g., De Niet et al., 2009; Thaut, 1989). Since relaxation has been demonstrated to be one of many underlying mechanisms resulting in beneficial mindfulness

meditation (Luberto et al., 2020), it is important to determine whether listening to music can have the same effect on prosociality. In addition, the one-on-one setting neutralized the probable effect of group gathering.

At the end of the second meeting, all the participants listened to a sham pre-recorded university radio broadcast. They were told that the program was part of the university radio station's attempt to determine what content interested students. The participants listened to an interview with Anna, allegedly a student dealing with a chronic illness. Anna described her life since she discovered that she was sick, losing her job because of her disability, her struggles with her condition while trying to complete her undergraduate degree and financial difficulties in funding her treatment while at university. Anna emphasized that she had no control over her condition, in order to neutralize controllability attribution. This manipulation was based on Batson's (1997) empathy experiences, with specifications according to the needs of the current research. After listening to the interview, the participants were asked to complete the Empathic Response Questionnaire (ERQ) regarding their feelings towards Anna to measure how much they cared about her situation. Participants' willingness to help was further examined by voluntary registration for an organization helping students in a situation similar to Anna's, and by their willingness to commit to this organization (see questions in supplementary materials).

Finally, all participants completed the State Mindfulness Scale (SMS) to examine the success of the experimental manipulation. We chose to measure mindfulness as a state because of the short period of the intervention, which was not expected to enhance dispositional mindfulness. All the questionnaires were anonymous. All sessions and questionnaire-answering were conducted in the presence of a research assistant to answer participants' questions when needed, prevent automated responses, and verify the completion of the intervention. A pilot of 20 participants approved the reliability of the interview.

Measures

Dispositional Empathy

Dispositional empathy was measured before the intervention by the Toronto Empathy Questionnaire (TEQ; Spreng et al., 2009) which assesses the general capacity to feel empathy for others. This is a unidimensional self-reporting questionnaire that contains 16 items rated on a 5-point scale from 0 (never) to 4 (always) and was shown to have high internal consistency ($\alpha = 0.85$; Spreng et al., 2009). In the current study, reliability based on MacDonald's omega was 0.85.

Emotional Response to a Stranger in Distress

The emotional reaction to a stranger in distress after the intervention was measured by the Emotional Response Questionnaire (ERQ; Batson, 1991). The ERQ consists of six items relating to the domain of empathic care — compassionate, moved, sympathetic, soft-hearted, tender, warm. The items were rated on a 7-point scale from 1 (not at all) to 7 (extremely). The predictive validity of the ERQ has been demonstrated in multiple studies (e.g., Bekkers, 2005, 2006; Penner & Finkelstein, 1998) and its internal consistency was also found to be high ($\alpha = 0.82$; Toi & Batson, 1982). In the current study, reliability based on MacDonald's omega was 0.87.

State Mindfulness

Mindfulness as a state was measured in order to examine the success of the intervention by the State Mindfulness Scale (SMS; Tanay & Bernstein, 2013). This is a self-reporting questionnaire that measures mindfulness as a state via two sub-scales — mental awareness and physical awareness. The SMS includes 21 items rated on a 5-point scale ranging from 1 (not at all) to 5 (very well). A high score points to high levels of awareness of the same moment mental state and body sensation. Mindfulness meditation is expected to enhance the state mindfulness score during a specific period of time. A follow-up examination pointed to an alpha value of 0.90 (Tanay & Bernstein, 2013). In the current study, reliability based on MacDonald's omega was 0.96.

Data Analyses

Descriptive statistics of age, gender, TEQ, and one-way analysis of variance (ANOVA) of the TEQ were conducted in order to compare the control and experimental groups against each other for a balance in these terms. A *t*-test for independent samples was utilized to determine whether there were gender differences in the outcome variables of the study. Descriptive statistics and one-way analysis of variance

(ANOVA) of the SMS were carried out comparing the three groups against each other to examine the first hypothesis (mindfulness meditation increases mindfulness state) and the success of the intervention. The second hypothesis (mindfulness meditation increases help-giving) was examined via chi-squares (χ^2), calculating the observed and expected sums and percentages of volunteering and commitment. A one-way multivariate analysis of variance (ANOVA) was performed to compare the three groups against each other regarding ERQ. Finally, the third hypothesis (mindfulness moderates the association between dispositional empathy and the outcomes — ERQ, volunteering, and commitment) was examined by Process macro for SPSS (version 3.5; Hayes, 2020), using model number one. The treatment was examined as a moderator of these relationships. In order to examine the difference between the mindfulness group and the two control groups, the moderator was coded by the Helmert method for multicategory moderators. Age and gender were included as controlled variables.

Results

This randomized controlled trial aimed to examine three hypotheses regarding mindfulness practices: (1) short mindfulness practice enhances state mindfulness; (2) short mindfulness practice enhances the intention to provide help; (3) mindfulness moderates the association between baseline dispositional empathy and the outcomes — empathic care, volunteering, and commitment. Our findings support the first two hypotheses and the third one only partly.

The mindfulness intervention, music, and lecture control groups were balanced in terms of demographic characteristics (mindfulness — 10 men, 50 women, mean age = 21.5, $SD = 3.54$; music — 10 men, 53 women, mean age = 20.09, $SD = 2.73$; lecture — 9 men, 57 women, mean age = 20.85, $SD = 3.63$), and in the TEQ (see Table 1). A Mahalanobis distance test indicated no outliers for the examined scales. A Shapiro–Wilk test within groups indicated that the scores of the TEQ were normally distributed: mindfulness [*W*

Table 1 Means and 95% confidence intervals of empathy components and state mindfulness across conditions ($N = 189$)

	Mindfulness $n = 60$		Music $n = 63$		Lecture $n = 66$	
	M	CI	M	CI	M	CI
TEQ	4.05	2.90, 3.02	4.06	2.97, 3.10	4.07	2.98, 3.09
ERQ	4.62	4.37, 4.86	4.58	4.35, 4.78	4.61	4.28, 4.85
SMS*	3.64	3.37, 3.66	3.25	3.02, 3.47	3.25	3.11, 3.49

TEQ, Toronto Empathy Questionnaire; *ERQ*, Empathic Response Questionnaire; *SMS*, State Mindfulness Scale

CI, confidence interval

*$P < .05$

Table 2 Observed and expected frequencies of volunteering and commitment across conditions (N=189)

	Mindfulness n=60		Music n=63		Lecture n=66	
	Observed	Expected	Observed	Expected	Observed	Expected
Volunteering	31 (50.8%)	21.9	20 (31.2%)	23.8	21 (31%)	25.3
Commitment	22 (36%)	13.2	9 (14%)	13.9	11 (16%)	14.7

(54)=0.97, p=0.097], music [W (62)=0.98, p=0.552], and lecture [W (60)=0.98, p=0.556]. A Levene's test was insignificant, F (2, 182)=0.29, p=0.742, and indicated homogeneity. A test of between-subjects effects of the TEQ showed that the difference between the three groups was insignificant, F (2, 185)=0.31, p=0.733. The independent samples t-test for gender revealed that gender was not associated with the study outcomes — SMS [t (186)=0.37, p=0.711], volunteering [t (187)=0.12, p=0.904], commitment [t (187)=0.15, p=0.880], or empathic care [t (179)=1.76, p=0.080], and was no longer considered.

Short Mindfulness Practice Enhances State Mindfulness

A Shapiro–Wilk test within groups indicated that the scores of the SMS were normally distributed: mindfulness [W (60)=0.94, p=0.140], music [W (63)=0.96, p=0.076], and lecture [W (65)=0.98, p=0.076]. A Levene's test indicated that the variances of the SMS scores were unequal, F (2, 185)=5.85, p=0.004. Therefore, a Welch test was used to examine whether there is a difference between the groups and yielded a significant result, F (2, 184)=1.92, p=0.014. Based on Games-Howell's post hoc pairwise comparisons, there were significant differences between the mindfulness and music groups (p=0.019), and between the mindfulness and lecture groups (p=0.024), but not between the music and lecture groups (p=0.900). Thus, the success of the experimental manipulation was confirmed (see descriptive statistic in Table 1).

Short Mindfulness Practice Enhances Help-Giving Intention

A significantly higher percentage of participants were willing to volunteer in the mindfulness group (50.8%), as compared to the music group (31.2%), and the lecture group (31%), χ2 (2, N=189)=9.51, φ=0.22, p=0.009 (see Table 2 and Fig. 1). In addition, a significantly higher percentage of participants were willing to commit to volunteer by leaving contact details in the mindfulness group (36%) as compared to the music control group (14%), and the lecture control group (16%), χ2 (2, N=189)=6.6, φ=0.57, p=0.016 (see Table 2 and Fig. 2). A Shapiro–Wilk
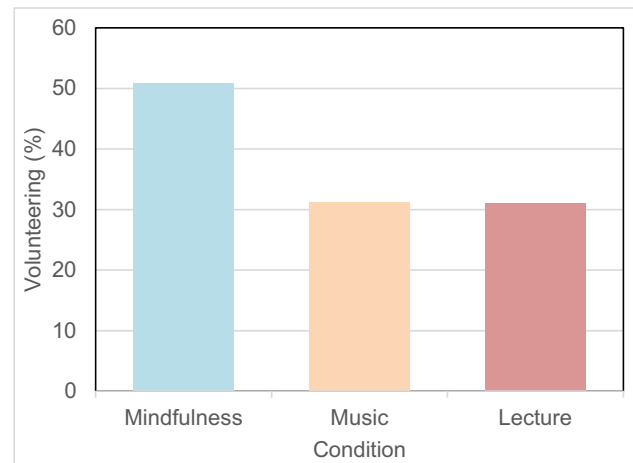
Fig. 1 Percentage of participants willingness to volunteer across the three conditions (N=189)
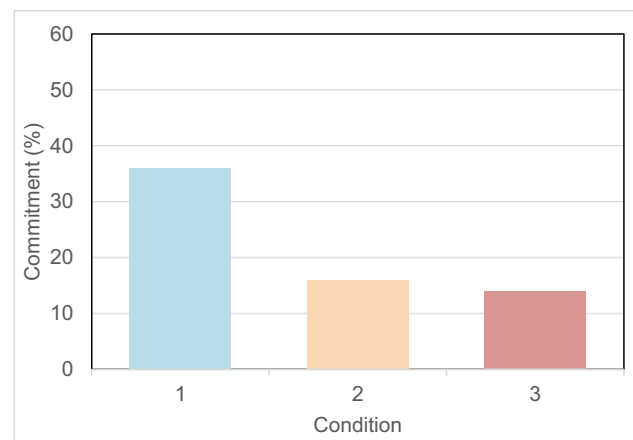
Fig. 2 Percentage of participants willingness to commit to volunteering across the three conditions (N=189)

test within groups indicated that the scores of the ERQ were normally distributed: mindfulness [W (57)=0.98, p=0.833], music [W (62)=0.96, p=0.109], and lecture [W (62)=0.981, p=0.455]. The Levene's test of equality of error variances was insignificant, F (2, 182)=0.98, p=374. The test of between-subjects effects of the ERQ was insignificant, F (2, 185)=0.06, p=0.941.

Mindfulness as a Moderator

The analysis of the group assignment as a moderator of the association between the TEQ and the ERQ demonstrated a significantly positive effect in the mindfulness group, $b = 1.40$, $SE = 0.31$, $p < 0.001$. This effect was not repeated in the music group, $b = 0.28$, $SE = 0.32$, $p = 0.380$, nor in the lecture group, $b = 0.09$, $SE = 0.28$, $p = 0.737$ (see Fig. 3). The examination of the group assignment as a moderator of the association between the TEQ and volunteering, as well as the TEQ and commitment, was insignificant. The comparisons of the interactions between each of the two groups are presented in Table 3.

Additional Analyses

Because of the ambivalent findings regarding mindfulness as a moderator, and in order to better understand the relationship between empathic care and help-giving intention, two-tailed Point-Biserial correlations of the ERQ with volunteering and of the ERQ with commitment in each group were calculated. A Shapiro–Wilk test indicated that the ERQ scores were normally distributed within each category of the dichotomous variables: volunteering [$p = 0.303$, 0.657] and commitment [$p = 0.292$, 0.615]. A Levene's test indicated equal variances within each category of the

Fig. 3 Visual presentation of the interaction effect of dispositional empathy and the three conditions on empathic care ($N = 189$). TEQ, Toronto Empathy Questionnaire; ERQ, Empathic Response Questionnaire
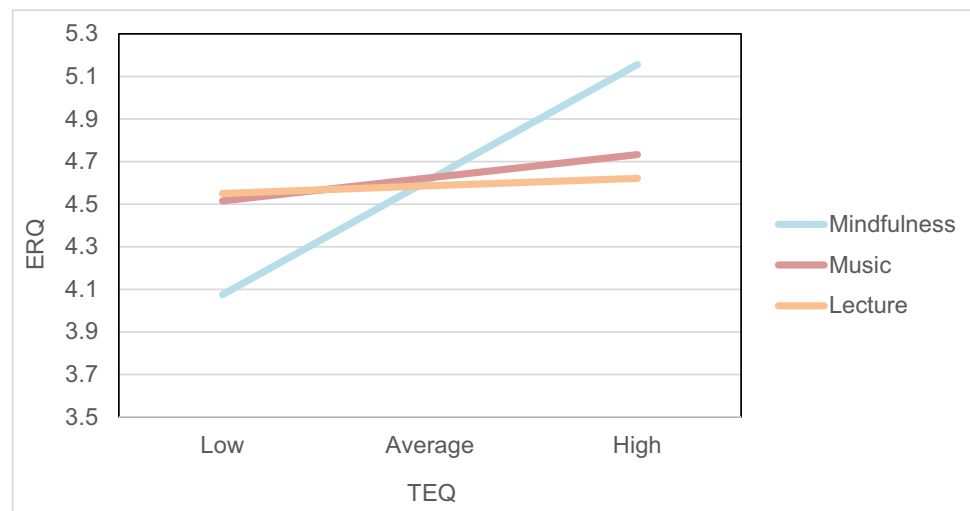

Table 3 Summary of regression models for predicting empathy care, volunteering, and commitment by dispositional empathy, mindfulness manipulation, and their interaction ($N = 189$)

	ERQ			Volunteering			Commitment		
	b	SE	95% CI	b	SE	95% CI	b	SE	95% CI
Age	.06	.02	**.02, .10**	.04	.02	**.01, .08**	.11	.05	**.002, .21**
Gender	−.02	.19	−.39, .35	−.14	.15	−.43, .16	.08	.44	−.78, .95
TEQ	.59	.17	**.25, .94**	.50	.14	**.22, .77**	1.07	.45	**.19, 1.95**
Mindfulness (compared non-mindfulness)	5.02	1.54	**1.97, 8.06**	1.61	1.23	−.82, 4.03	2.12	3.97	−5.67, 9.90
Lecture (compared to music)	.74	1.77	−2.75, 4.24	.98	1.41	−1.80, 3.77	−5.70	4.59	−14.70, 3.30
Mindfulness×TEQ	−1.22	.37	**−.48, −1.95**	−.36	.30	−.94, .23	−.56	.95	−2.42, 1.30
Lecture×TEQ	−.19	.42	−1.03, .65	−.27	.34	−.94, .40	1.36	1.09	−.78, 3.50
Model summary									
R^2		.151			.121			.090	
F/χ^2		3.90			3.03			12.53	
Df		8,176			8,176			8	
p		.001			.003			.129	

TEQ, Toronto Empathy Questionnaire; *ERQ*, Empathic Response Questionnaire

The commitment prediction regression is a binary logistical regression. In this regression, the statistical is chi-square and the R^2 is Nagelkerke's R^2. The confidence interval was calculated using the boot-strapping method of 5000 samples. A coefficient whose confidence interval does not include the value 0 is significant and appears in bold.

non-parametric variables: volunteering [$p = 0.774$] and commitment [$p = 0.329$]. The correlations between the ERQ and volunteering were significant in the mindfulness group [$r(57) = 0.35$, $p = 0.006$], and music group [$r(63) = 0.34$, $p = 0.005$], but not in the lecture group [$r(65) = 0.20$, $p = 0.100$]. Likewise, the correlations between the ERQ and commitment were significant in the mindfulness group [$r(57) = 0.38$, $p = 0.002$], and music group [$r(63) = 0.30$, $p = 0.015$], but not in the lecture group [$r(65) = 0.04$, $p = 0.720$].

Discussion

The idea that mindfulness meditation increases compassion and help-giving is well-established in the Buddhist doctrine but is in its preliminary stages in empirical research. The aim of this study was to determine if short mindfulness interventions can increase empathic care and intention to help a stranger in distress. We found that two 30-min mindfulness practice sessions increased mindfulness state and the willingness to volunteer and help people in need when compared to music and lecture control groups.

Furthermore, in the mindfulness group, there was an increased association between dispositional empathy and empathic care. The fact that all the three groups were balanced in terms of dispositional empathy, baseline characteristics, and empathic care, also strengthens the hypothesis that the intervention affected this relationship. Of note, in the low dispositional empathy sub-group, mindfulness practice reduced empathic care. This finding is supported by previous research that suggested that the effect of mindfulness depends on preexisting dispositions (Poulin et al., 2021) and may even increase self-indulgence among those who have lower trait empathy (Chen & Jordan, 2020).

On the other hand, mindfulness did not moderate the association between dispositional empathy and volunteering, as well as dispositional empathy and commitment. One explanation for these ambivalent findings may be the effect of socially desirable responses. The completion of the empathy questionnaire or the mindfulness practice led participants with prior high empathy to anticipate the research goal and to report high empathic care. This can be a result of their inherent will to comply with the study's desired outcomes. Yet their socially desirable response was limited and did not expand to an actual registration to volunteer. Another possible explanation is that volunteering and commitment, as practical intentions to help, are not solely dependent on dispositional empathy, but rather on several factors that we did not measure (e.g., moral disengagement, altruism, mental condition, availability).

Additional analysis pointed to significant correlations between empathic care and volunteering, as well as empathic care and commitment in the mindfulness and music groups, but not in the lecture group. Early research suggested that empathy can lead either to a feeling of being flooded with uncomfortable stagnating emotions or to compassion towards others (Batson, 1991; Greenberg & Turksma, 2015). Thus, empathy can lead to self-protection or prosocial action, depending on one's current state. It may be that the mindfulness and music conditions led to a relaxation response and reduced distress, thus, feelings of empathic care were more prone to be translated to intention to volunteer. Yet, the correlation between statements about feelings of care and prosocial reactions needs further investigation. In particular, prosocial reactions ought to be examined in a behavioral manner, as close to real-life situations as possible.

Previous studies showed increased dispositional mindfulness after an 8-week mindfulness intervention (e.g., Carmody & Baer, 2008; Kuyken et al., 2010). Our research showed that even two short sessions increase mindfulness state levels when examined shortly after the practice. The effect of long mindfulness interventions on help-giving was demonstrated in a few studies as well (e.g., Condon et al., 2013; Lim et al., 2015). Initial findings suggest that even a short mindfulness intervention improves empathic concern and help-giving intention towards an ostracized victim (Berry et al., 2018; Tan et al., 2014). With a relatively large sample size, the present study revealed that a short intervention can also increase the intention to help in an obligating and extended manner, thus strengthening previous findings. Perhaps, the effect of a short mindfulness intervention on state mindfulness and prosociality is limited in terms of duration. Thus, in order to detect its effect over time, a long-term follow-up is needed.

Active control groups are needed in order to isolate the active components of mindfulness and can improve understanding regarding its effect (Kok et al., 2013). The music and lecture conditions and the one-on-one format conducted in this study allowed us to control for the effects of rational responses to contents of empathy, relaxation response, and peer pressure. Finally, controllability attribution was neutralized by choosing a subject who was not accountable for her distress.

Limitations and Future Research

The generalizability of the findings of this research is limited for a few reasons. First, the prosocial outcomes that were measured indicate intentions but not actual actions. As self-reported empathy is not necessarily related to actual behaviors, it is also possible that the intention to volunteer may not directly lead to actual behaviors.

Second, effects were assessed in an experimental setting and the long-term effect of the intervention cannot be determined. Sustained well-being after mindfulness programs has been demonstrated across multiple studies (e.g., Grossman, 2011; Kabat-Zinn, 2005). Yet, several studies that included a follow-up indicated a reduction in well-being outcomes and suggested that adherence to practice is needed in order to create a steady influence (Ribeiro et al., 2018). Further research with a long-term follow-up is needed to detect the effects over time. Third, the sample included only undergraduate students between the age of 18 and 30. The ability to take the perspective of others is developmentally linked, thus age may play a role in the effect of mindfulness on prosocial behaviors (Donald et al., 2018); however, we feel that this is a minor issue due to the 12-year age range.

There are also a few limitations regarding this study's design. The use of self-report questionnaires leads to a risk of common methods bias — a correlation between several constructs because of a response pattern (e.g., response style, social desirability) and not a true correlation between the constructs being measured (Podsakoff et al., 2012). In the current research, the delay between the pre- and post-intervention measurements, along with the different scaling of the outcome constructs, reduced the magnitude of this bias. However, as this study relies on self-report, our findings should be read considering this bias. In addition, the initial measurement of dispositional empathy may be a threat to internal validity due to instrumentation (Campbell & Stanley, 1963) that could increase suspicion among participants regarding the research topic and lead them to socially desirable responses (He et al., 2015). To overcome these threats in future research, socially desirable responses should be analyzed as a covariate, or instead, dispositional empathy should be examined long before beginning the intervention. Furthermore, to reduce the risk of common methods bias, another source of data such as behavioral outcome should be used.

The use of two active control groups raises a question about the negative effect that these manipulations had on prosocial responses. There is no way of telling if mindfulness practice increased prosocial responses or whether the control condition reduced them. The addition of an inactive control group, such as a waiting list, could have resolved this issue.

Finally, this research was conducted in the specific circumstances of the COVID-19 pandemic and lockdowns when the rates of distress and depression in the total population were high (Schwinger et al., 2020). Depression, which is negatively correlated with prosocial behavior (Alarcón & Forbes, 2017), was not measured and perhaps affected the findings.

Nevertheless, this study showed the potential of short mindfulness in cultivating the propensity to provide help when exposed to a stranger in distress and supports the Buddhist doctrine that meditation practice cultivates compassion. Additional work will be needed in order to examine whether longer mindfulness practices have a deeper and more long-lasting effect on help-giving in a dose–response manner. In future research, we plan a design of active and inactive control groups, observation of overt behavior, and a follow-up several weeks after the intervention has been completed.

Declarations

Ethical Statement All procedures performed in this study were in accordance with the ethical standards of our institutional committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study was approved by the ethics committee of the Seymour Fox School of Education, the Hebrew University of Jerusalem. All participants gave their informed consent before participating in the research.

Conflict of Interest The authors declare no competing interests.

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