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Do Meditation, Mindfulness, and Self-Compassion Impact Utilitarian Moral Judgment?

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Abstract

Objectives Meditation practices, mindfulness, and self-compassion have been found to affect our physical and mental well-being in many ways. However, can they also affect our moral judgment, for example, what we think about right and wrong? This study aims to explore the potential influence of meditation, mindfulness and self-compassion on utilitarian moral judgments.

Method In Study 1 ($n=316$), we measured participants' frequency of meditation, their level of mindfulness, self-compassion, and their utilitarian moral judgment through two well-known moral dilemmas (switch and bridge) and using a two-dimensional model of moral psychology (the Oxford Utilitarianism Scale with negative, i.e., instrumental harm, and positive, i.e., impartial beneficence dimensions). In Study 2 ($n=41$), we conducted a psychological 8-week mindfulness course and measured the same variables as in Study 1 before and after the course.

Results In Study 1, we observed that participants who meditated more often exhibited lower levels of instrumental harm. In Study 2, we found that participants had a lower level of impartial beneficence after the 8-week mindfulness course.

Conclusions Practices such as meditation may be related to moral judgment, specifically to lower acceptance of harming others (instrumental harm), but they may also reduce the concern for the welfare of as many people as possible (impartial beneficence). Further research is needed to understand better if and how moral judgments may change when people meditate and develop their mindfulness and self-compassion.

Preregistration The studies were not pre-registered.

Keywords Mindfulness · Self-compassion · Meditation · Moral judgment · Utilitarianism

Meditation traditions exist worldwide in many cultures and religions, such as Judaism, Islam, Christianity, and Hinduism (Plante, 2010). However, mindfulness meditation combined with compassion is the most characteristic of Buddhist practice (Thrangu & Johnson, 2004). For centuries, monks benefited from meditation practices for their bodies and souls. The latest research confirms those positive effects on mental health (Spijkerman et al., 2016), physical health

(Sala et al., 2020), and well-being (Tang et al., 2019). Not only developing mindfulness but also compassion for others and self-compassion yield beneficial effects (Phillips & Hine, 2021; Zessin et al., 2015). Of course, mindfulness practices have undergone a clear change over the last few years in the modern world, and today, everyone can practice them (McMahan, 2012; McMahan & Braun, 2017). Many people do not even practice them for religious, ethical, or philosophical reasons but for physical and mental health benefits. Mindfulness and self-compassion, which might be an effect of meditation or other training, not only improve health but also impact how people react to the outside world and themselves.

One domain in which they may impact people is their morality. We may suspect that, because such experiences influence people's feelings, thoughts, and behaviors, and morality is strongly related to them (Dahl, 2023; Paruzel-Czachura, 2016, 2023). According to the concept of moral

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integrity, "morality is an attitude whose constituents are: our behavior (Do I help others? Have I ever stolen anything?), our view of the world (Which values do I subscribe to? What do I think about my friend's affair?), and our emotions (What do I feel when I tell a lie? What do I feel when I help someone?)" (Paruzel-Czachura, 2016, p.184). Contrary to common sense intuition that behaviors are the most relevant when assessing someone's morality, five empirical studies showed the power of expressed emotions and thoughts after wrongdoing, i.e., even a murderer was seen as much less immoral if they felt guilty and thought that what they did was unacceptable (Paruzel-Czachura & Białek, 2022). Furthermore, it was already stated that mindfulness is related to behaviors, emotions, and thoughts. For example, mindfulness is related to prosocial behaviors (Donald et al., 2019) or higher empathy (Cheang et al., 2019).

Working on mindfulness, which reflects a specific psychological state of attention or awareness of the present moment (see, for example, Bishop et al., 2004; Kabat-Zinn, 1990) and on compassion development, including the self-compassion, which reflects kindness towards oneself, connected with the ability to understand one's suffering, limitations, failures, and negative emotions, accompanied by the conviction that most people experience bad or difficult events (see, for example, Fulton, 2012; Neff, 2003), may change how people feel, think, and act. Despite the debate about how to define correctly mindfulness and self-compassion, mindfulness-based programs, particularly Mindfulness-Based Stress Reduction (Kabat-Zinn, 1990) and Mindfulness-Based Cognitive Therapy (Segal et al., 2002), constitute a popular and effective base for self-development training as it improves our relations with others and general cognitive and emotional functioning (Querstret et al., 2020).

It was already stated that the development of mindfulness and self-compassion may lead to many intrapsychic, interpersonal, as well as morality-related changes (Sevinc & Lazar, 2019; Tan, 2021). For example, mindfulness is linked to prosocial behavior, which has been shown both in correlational and experimental studies (see meta-analysis: Donald et al., 2019), and to the motivation to control one's prejudiced reactions (Verhaeghen & Aikman, 2020). Those changes in behavior may be related to different emotional and cognitive functioning after mindfulness training. Specifically, we already know that mindfulness-based programs may increase empathy (Cheang et al., 2019), reduce the slippery slope effects in moral decision-making related to making the tradeoff between money for myself and unpleasant electric shocks to another person (Du et al., 2023), or increase the level of moral reasoning and decision-making (Shapiro et al., 2012) measured by the Defining Issues Test (DIT-2) (Rest et al., 1999). Distinct aspects of mindfulness also relate to higher moral responsibility (Small & Lew, 2021), higher sensitivity to moral foundations (Verhaeghen

& Aikman, 2020), increased compassionate responses to suffering (Condon et al., 2013), or moral sensitivity, moral identity, and prosocial behavior (Xiao et al., 2020). Additionally, not only may mindfulness impact how people behave, feel, and think regarding moral issues, as also self-compassion was found to decrease the acceptance of own immoral behaviors (Wang et al., 2017) and was related to reduced unethical behavior through lower moral disengagement (Yang et al., 2020). Despite the above links, we still know little about the impact of mindfulness and self-compassion on moral judgments like utilitarian ones.

Utilitarianism is a complex ethical approach, but it is generally held to be the view that the morally right action is the action that produces the most good (Driver, 2022). The simplest way to explain utilitarianism is via the well-known example of the trolley dilemma (Foot, 1967). In the bridge version of the trolley dilemma (Thomson, 1976), participants must decide if it is appropriate to push a big man from the bridge to stop the train and save five people on the track. The bridge dilemma highlights the tension between two philosophical ethics: deontology and utilitarianism. Deontological ethical theories posit that moral judgments should be based on rights, duties, and obligations. Following the classical theory of deontology developed by Kant, we should not push man from the bridge because we should strictly follow moral norms, such as not harming others (Kant, 1916), so the deontological approach prohibits actions like the killing of innocents in the trolley dilemma, even when good consequences are in the offing (Alexander & Moore, 2021).

In contrast, as a particular type of consequentialism, utilitarianism posits that moral judgments should be guided by the consequences for the greater good (Bentham, 1983; Mill, 1863). Following the classical utilitarian approach to ethics, we should push man because we should focus on the consequences of our decision for the greater good, and saving five lives is better than saving one life. Simply put, we should always care about the greater good, even if we sometimes must do something wrong. It is worth highlighting that both deontological and utilitarian approaches developed with time (Alexander & Moore, 2021; Driver, 2022; Kahane et al., 2018; Moore, 1903; Raphael, 1990; Scarre, 1996; Sidgwick, 1981), but still, the trolley dilemma used in most empirical studies today relates to these classical understandings of what deontology (Kant, 1916) and utilitarianism are (Bentham, 1983; Mill, 1863).

The recent research showed the first evidence that mindfulness intervention (i.e., listening to a recording in which a female voice instructed participants to remain in a state of focus while becoming aware of their bodily sensations like breath) may increase utilitarian decision-making (measured via the trolley problem) but only when the sacrificial target is not the participant's close kin member or romantic partner (Fitzgerald et al., 2022). However, the traditional approach

of using moral dilemmas that pit "characteristically utilitarian" against "characteristically deontological" options like shown in the bridge dilemma above (pushing the man from the bridge was interpreted as a preference for utilitarianism and not pushing was interpreted as the preference for deontology) has been widely criticized for many reasons, including unrealistic problems, or connecting utilitarianism with action (e.g., push the man) and deontology with inaction (doing nothing), which might be methodologically problematic as some people tend to observe and not react so they should not be categorized as deontologists (Conway, 2018; Conway & Gawronski, 2013; Crone & Laham, 2017).

Moreover, pro-sacrificial judgments, on which the traditional approach is based, are just one part of utilitarian psychology. According to the two-dimensional model of utilitarian psychology (Everett & Kahane, 2020; Kahane et al., 2018), utilitarianism has two conceptually and psychologically distinct dimensions; in the traditional approach, we measure only one of them. *Instrumental harm* (the negative dimension of utilitarian judgment) captures the willingness to cause harm to achieve positive consequences for the greater good. *Impartial beneficence* (the positive dimension of utilitarian judgment) taps the extent to which people endorse the radically demanding and impartial helping utilitarianism requires. While the traditional approach infers utilitarianism from responses to sacrificial dilemmas, this approach infers endorsement of instrumental harm and impartial beneficence from participants' agreement with broad ethical statements about critical ideas of the two dimensions (Kahane et al., 2018). Lastly, using this new approach in moral psychology, we may uncover a different pattern of results, similar to what was found, for instance, regarding the relationships between utilitarian moral judgment and religiosity. When using the traditional approach (i.e., trolley dilemmas), religiosity was related to deontological (not utilitarian) moral judgment. However, when using this new model, religiosity was related to utilitarian moral judgment (i.e., impartial beneficence) (Paruzel-Czachura & Charzyńska, 2022).

Although most studies concluded that moral judgments are surprisingly stable (e.g., Knobe, 2021; Paruzel-Czachura et al., 2023), we investigated if meditation practices and higher levels of mindfulness and self-compassion can change judgments about right and wrong. Specifically, we aimed to study whether mindfulness and self-compassion may impact utilitarian moral judgments. We conducted two studies: the first was correlational, and the second was experimental. In Study 1, we measured participants' frequency of meditation, their level of mindfulness (Walach et al., 2006), self-compassion (Neff, 2003), and their utilitarian moral judgment via two traditional moral dilemmas of the switch (Foot, 1967) and the bridge (Thomson, 1976) and the Oxford Utilitarianism Scale (Kahane et al., 2018). In Study 2, we used a psychological 8-week online mindfulness-based course (via online platform NAVOICA, link to this free open course is following: https://navoica.pl/courses/course-v1:Uniwersyte tSlaski+PS02+2021_3/about), and we measured the same variables before and after the course.

We decided to conduct an online intervention as the use of multimedia technologies to teach and practice mindfulness, and self-compassion is very common and effective (Flett et al., 2019; Hendricks et al., 2020; Hulsbosch et al., 2020; Kappen et al., 2019; Lyzwinski et al., 2019; Osin & Turilina, 2022; van Emmerik et al., 2020). We are aware that a variety of approaches to mindfulness training might be used in such studies, ranging from its intentional adoption in everyday life (e.g., Langer, 1990) to engagement in a variety of formal meditation practices (e.g., Hölzel et al., 2011; Lutz et al., 2008; Vago & Silbersweig, 2012), and extending to participation in many structured mindfulness-based interventions (e.g., MBIs; Baer, 2003; Creswell, 2017; Kabat-Zinn, 2003). However, free online options are not available in the Polish language in which our studies were conducted, and using participants' native language is very important not only for effective interventions (Bernal et al., 1995; Castellanos et al., 2020) but also regarding the moral foreign language effect (Białek et al., 2019). Additionally, most interventions to develop mindfulness are paid for, requiring research funding (Müller et al., 2019). The used course was developed by researchers at the University of Silesia in Katowice and included substantive lectures regarding mindfulness and self-compassion and practical exercises. The course is described in detail in the section Procedure of Study 2.

Study 1

Participants

We studied a sample of $n = 316$ participants, but the final analyzed sample consisted of $n = 297$ (237 women; 60 men; 0 other) individuals as we excluded participants who did not pass control questions and with missing data. The mean age was 28.20 ($SD = 9.58$). One hundred twelve participants (38%) were working full-time, $n = 30$ (10%) partial time, $n = 18$ (6%) were unemployed, $n = 114$ (38%) were students, and $n = 23$ (8%) choose the option "other." We controlled participants' religion (type) and their subjectively assessed religious practice by asking: "To which extent do you practice any religion?" on a scale from 0 – *I do not practice at all* to 7 – *I am a very practicing person*. One hundred eighty-nine participants chose options from 1 to 7 (so they were practicing religion, on an average level of $M = 3.71$ and $SD = 2.13$ for those individuals), and in this sample, most participants ($n = 175$) were Catholics, $n = 2$ declared

as Buddhists, $n = 2$ Protestants, and $n = 18$ choose the option "other." We also asked participants about their meditation practices via the question: "Have you ever meditated?" on the following scale: 1 – *once*, 2 – *a few times*, 3 – *dozen*, 4 – *several dozen*, 5 – *more than one hundred times*. One hundred fifty-five participants answered positively to this question, so they meditated at least once in their life. Specifically, $n = 8$ participants meditated once in their life, $n = 57$ participants a few times, $n = 32$ participants dozen, $n = 36$ participants several dozen, and $n = 22$ participants more than one hundred times. Additionally, we asked about the frequency of meditation via the question: "Do you meditate regularly?" where the participants could answer *yes* or *no*. This time, only $n = 22$ participants declared that they meditate regularly.

Sensitivity power analysis for correlation (one-tailed) ($\alpha = 0.05$ and power $= 0.80$) shows that the sample size of 297 participants is appropriate to find an effect size $= 0.143$ (noncentrality parameter $= 2.492$, critical $t = 1.650$, $df = 295$).

Procedure

All data were gathered using the snowball sampling method among Polish residents. No incentive was offered for participation in the online study. The participants were informed about the purpose of the study and participated in it voluntarily. Ethical approval for the study was granted by the Institutional Ethics Committee. This study was not pre-registered, but the database is available at the Open Science Framework (https://osf.io/543d9/).

Measures

Trolley Problems Participants were presented with the switch dilemma (Foot, 1967) and the footbridge dilemma (Thomson, 1976) in the Polish translation (Paruzel-Czachura et al., 2023) and asked whether they would perform the described activity on the 7-point Likert scale. The endpoints were labeled *I would definitely do nothing* (1), and *I would definitely pull the lever* (7) for the switch dilemma, and *I would definitely do nothing* (1), and *I would definitely push the man onto the track* (7) for the footbridge dilemma.

Oxford Utilitarianism Scale Dimensions of utilitarianism were measured using the Oxford Utilitarianism Scale (Kahane et al., 2018) in the Polish translation (Paruzel-Czachura et al., 2023). The *impartial beneficence* subscale includes 5 items measuring the extent to which people endorse the utilitarian demand for impartial helping (e.g., "It is morally wrong to keep money that one doesn't really need if one can donate it to causes that provide effective help to those who will benefit a great deal"). The *instrumental harm* subscale includes 4 items measuring willingness to

cause harm to achieve positive consequences for the greater good (e.g., "It is morally right to harm an innocent person if harming them is a necessary means to helping several other innocent people"). Participants were asked to indicate how much they agreed with each statement, using a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The Cronbach's α of the scale in the current study was 0.63.

Self-Compassion Scale Self-compassion was measured using the 26-item Self-Compassion Scale (Neff, 2003) in the Polish translation (Kocur et al., 2022). This tool consists of 6 subscales referring to the components of the studied variable: *self-kindness* (e.g., "I try to be loving towards myself when I'm feeling emotional pain"), *self-judgment* (e.g., "I'm disapproving and judgmental about my own flaws and inadequacies"), *common humanity* (e.g., "When things are going badly for me, I see the difficulties as part of life that everyone goes through"), *isolation* (e.g., "When I think about my inadequacies, it tends to make me feel more separate and cut off from the rest of the world"), *mindfulness* (e.g., "When something upsets me I try to keep my emotions in balance"), and *over-identified* (e.g., "When I'm feeling down I tend to obsess and fixate on everything that's wrong"). Each item is measured using a scale from 1 (*almost never*) to 5 (*almost always*). The Cronbach's α of the scale in the current study was 0.94.

Freiburg Mindfulness Inventory It is a self-report tool developed to measure trait mindfulness (Walach et al., 2006). It is a one-factor unidimensional scale consisting of 14 items (e.g., "I am open to the experience of the present moment", "When I notice an absence of mind, I gently return to the experience of the here and now"). Participants are asked how often they felt like this, with a rating from 1 (*rarely*) to 4 (*always*). The Cronbach's α of the scale in the current study was 0.86.

Meditation Frequency We asked participants about their meditation practices via the question: "Have you ever meditated?" where the respondents answered *yes* or *no*. Next, we asked, "How many times do you meditate in your life?" on the following scale: 1 – *once*, 2 – *a few times*, 3 – *dozen*, 4 – *several dozen*, 5 – *more than one hundred times*. Finally, we asked about the frequency of meditation via the question: "Do you meditate regularly?". The respondents could answer *yes* or *no*.

Religion We controlled participants' religion (type) in one closed question and their subjectively assessed religious practice by asking: „To what extent do you practice any religion?" on a scale from 0 – *I do not practice at all* to 7 – *I am a very practicing person*. We asked about religion type for those who chose options from 1 to 7.

Additionally, participants were asked about their sex, age, and occupational status.

Data Analyses

Data analyses were conducted via the JASP 0.14.3. We tested correlations between variables and differences between groups depending on the frequency of meditation. We planned to create two groups for comparison based on the number of meditation sessions (lower vs. higher) and considering that the minimum sample size per group should be 50. Moreover, this division is also explained by the confirmed effectiveness of 8-week courses (MBSR; MBLC), which include a similar average number of meditations (several dozen; $8 \times 7 + 1$ or $8 \times 6 + 1$). Because our

sample was not gender, age, and religious balanced, we did not control for potential confounding variables like age, gender, and religious practice. We used non-parametric tests, as our data did not meet the assumptions for parametric tests (lack of normal distribution).

Results

Table 1 shows descriptive statistics for all measured variables. Spearman's correlations between measured variables in the total sample are in Table 2. When analyzing the total sample, we found no significant relationships between utilitarian moral judgments and mindfulness, self-compassion, and meditation frequency ($n = 279$). However, we observed positive correlations between measures of utilitarian moral judgment and positive correlations between mindfulness, self-compassion, and meditation (Table 2). Additionally, when analyzing data only from participants who meditated at least once in their life ($n = 155$), we found significant correlations (Table 3). Specifically, instrumental harm was negatively correlated with the frequency of meditation – the more often people meditate, the less they accept harming others to gain more benefits for more people.

Next, we compared two groups of participants: those who meditate rarely (i.e., once, a few times, or dozen times) with those who meditate more often (i.e., a few dozen or more) (Table 4). We found that participants who meditated rarely had a higher level of instrumental harm than participants who mediated more often ($M_{rare} = 3.154$, 95% vs. $M_{often} = 2.810$), $p = 0.018$ (95% LCI = 0.060, UCI = 0.626).

Table 1 Means and standard deviations for measured variables ($n = 297$)

	Min	Max	M	SD
Impartial Beneficence [1–7]	1.000	6.600	3.461	1.066
Instrumental Harm [1–7]	1.000	6.500	3.087	1.037
Switch [1–7]	1.000	7.000	4.542	1.954
Footbridge [1–7]	1.000	7.000	2.953	1.802
Self-Compassion [1–5]	1.242	4.667	2.695	0.757
SC Self-Kindness [1–5]	1.000	5.000	2.855	0.984
SC Self-Judgment [1–5]	1.000	5.000	3.385	0.912
SC Cmmon Humanity [1–5]	1.000	5.000	2.927	0.929
SC Isolation [1–5]	1.000	5.000	3.446	0.957
SC Mindfulness [1–5]	1.000	5.000	2.887	0.924
SC Over-Identification [1–5]	1.000	5.000	3.666	0.925
Mindfulness [1–5]	1.141	3.786	2.305	0.559

The numbers in brackets relate to the variable's scale

Table 2 Spearman's correlations between moral judgments, mindfulness, and self-compassion in the total sample ($n = 297$)

	1	2	3	4	5	6	7	8	9	10	11
1. Impartial Beneficence	-										
2. Instrumental Harm	0.211**	-									
3. Switch	0.153**	0.294**	-								
4. Footbridge	0.132*	0.253**	0.455**	-							
5. Self-Compassion (SC)	-0.038	0.014	-0.010	-0.044	-						
6. SC Self-Kindness	-0.002	0.049	-0.044	-0.019	0.880**	-					
7. SC Self-Judgment	0.057	0.001	0.053	0.018	-0.798**	-0.698**	-				
8. SC Common Humanity	-0.023	0.026	-0.030	0.098	0.770**	0.681**	-0.540**	-			
9. SC Isolation	0.028	0.042	-0.004	0.050	-0.762**	-0.570**	0.577**	-0.415**	-		
10. SC Mindfulness	0.002	0.033	0.011	0.010	0.809**	0.721**	-0.483**	0.618**	-0.517**	-	
11. SC Over-Identification	0.077	0.023	-0.036	0.029	-0.795**	-0.575**	0.595**	-0.491**	0.612**	-0.610**	-
12. Mindfulness	0.022	0.071	0.055	0.083	0.768**	0.729**	-0.595**	0.607**	-0.537**	0.661**	-0.570**

† $p < 0.10$ *$p < 0.05$. **$p < 0.01$. Two-tailed

Table 3 Spearman's correlations between moral judgments, mindfulness, and self-compassion in the sample of participants who meditated at least once ($n = 155$)

	Impartial beneficence	Instrumental harm	Switch	Footbridge
Self-Compassion (SC)	-0.032	0.045	0.039	0.075
SC Self-Kindness	-0.010	0.059	0.018	0.065
SC Self-Judgment	0.085	-0.029	-0.023	-0.075
SC Common Humanity	0.001	0.102	0.064	0.135†
SC Isolation	-0.052	0.005	-0.039	-0.038
SC Mindfulness	-0.035	0.081	0.012	0.024
SC Over-Identification	0.065	0.071	-0.030	-0.052
Mindfulness	0.073	0.086	0.099	0.155†
Number of Meditations in Life	0.061	-0.193*	-0.079	-0.096

† $p < 0.10$ *$p < 0.05$. Two-tailed

Table 4 Comparison of two groups of participants: (1) those who never meditated, those who meditated once, a few or dozen times, with (2) those who mediated several dozen or more times (Welch's test)

	Those who never meditated, those who meditated once, a few or dozen times ($n = 239$)		Those who mediated several dozen or more times ($n = 58$)		t	df	p	Cohen's d
	M	SD	M	SD				
Impartial Beneficence	3.433	1.045	3.579	1.148	-0.888	81.461	0.377	-0.134
Instrumental Harm	3.154	1.046	2.810	0.955	2.409	93.110	0.018	0.343
Switch	4.623	1.934	4.207	2.015	1.423	84.312	0.158	0.211
Footbridge	3.004	1.835	2.741	1.660	1.059	93.809	0.292	0.150

Discussion

When we compared study groups (those who never meditated, meditated once, a few or dozen times vs. those who mediated several dozen or more times), we found that participants who meditated more often seemed to have lower levels of instrumental harm. When we tested relations between variables in the sample of participants who meditated at least once, we found that instrumental harm was negatively correlated with the frequency of meditations. We did not find other significant results. Although those results shed some light on our understanding of the relationships between morality and broadly understood mindfulness, conducting such correlational studies cannot tell us anything about the real impact of contemplative practices on moral judgments. By measuring participants twice, i.e., before they have contact with such practices and after completing some courses, we could bring more impactful knowledge about mindfulness and morality. That is why we conducted an experimental study with pre and post-tests.

Study 2

Participants

We studied a sample of $n = 41$ participants ($n = 34$ women; $n = 2$ others) who took part in the pre-test, finished the full course, and filled out the post-test. Although the sample is small, it is the standard sample size for such studies based on interventions (e.g., Sevilla-Llewellyn-Jones et al., 2018). The mean age of our participants was 23 (range 18–45). Thirty-one participants were students, $n = 2$ were working full-time, $n = 4$ part-time, $n = 1$ was unemployed, and $n = 3$ chose option "other." We controlled participants' religion (type) and their subjectively assessed religious practice by asking: „To what extent do you practice any religion" on a scale from 0 – *I do not practice at all* to 7 – *I am a very practicing person*. Twenty-seven participants chose options from 1 to 7 (indicating that they were practicing religion with an average level of $M = 4.15$ and $SD = 2.01$), and in this sample,

most participants ($n = 25$) were Catholics, $n = 1$ declared as Islamic and $n = 1$ Protestant.

In the pre-test, we asked participants about their meditation experience via the question: "Have you ever meditated?" on the following scale: 1 – *once*, 2 – *a few times*, 3 – *dozen*, 4 – *several dozen*, 5 – *more than one hundred times*). Twenty-eight participants answered positively to this question, so they meditated at least once in their life. Specifically, $n = 3$ participants meditated once in their life, $n = 15$ participants a few times, $n = 4$ participants dozen, $n = 3$ participants several dozen, and $n = 3$ participants more than one hundred times. Additionally, we asked about the frequency of meditation via the question: "Do you meditate regularly?" where the respondents could answer *yes* or *no*. This time, only $n = 4$ participants declared that they meditate regularly.

In the post-test, we again asked about the meditation experience via the question, "Have you ever meditated?". This time, $n = 38$ participants answered it positively. Specifically, $n = 2$ participants meditated once in their life, $n = 9$ participants a few times, $n = 14$ participants dozen, $n = 7$ participants several dozen, $n = 6$ participants more than one hundred times, and three participants did not answer this question. Additionally, we asked about the frequency of meditation via the question: "Do you meditate regularly?" where the respondents answered *yes* or *no*. This time, $n = 12$ participants declared that they meditate regularly. In sum, after the course, the experience and the frequency of meditation have grown.

Sensitivity power analysis for Wilcoxon signed-rank test–matched pairs ($\alpha = 0.05$ and power $= 0.80$) shows that a sample size of 41 participants is appropriate to find an effect size $= 0.321$ (noncentrality parameter $\delta = 2.515$, critical $t = 1.670$, $df = 60.50$).

Procedure

Participants were invited to take part in an 8-week online, asynchronous course and to participate in pre and post-tests. They were recruited through advertisements in various media (university website, Facebook) in Poland. All participants gave informed consent to participate in the study voluntarily without monetary compensation. The online course lasted 8 weeks, with an input of 3.5 hr per week per participant plus daily individual work (30–60 min). The participants had access to the material in asynchronous time, at their convenience (they received instructions to listen to the materials daily alone and in a comfortable zone). The structure of the course lessons included a theoretical introduction, descriptions of relevant past research, descriptions of practices (mindful breathing, body scan, mindful walking, thought observation, mindful pause, RAIN practice, self-compassion exercises, informal practice), and homework assignments. In addition, the course included a mandatory

peer-assessment exercise that all study participants completed. The exercise was to write a letter to yourself from the perspective of mindful compassion. Then, randomly selected participants rated each other's lists and gave feedback. The course instructor had an insight into the course completion by the participants. All test persons completed the course. The course was developed based on core recommendations (McCown et al., 2016). Each course lesson included a mindful pause using short (one-minute long) videos of nature with elements of basic mindfulness practices, for instance, plants, rain, and trees. There were no online meetings in the course. The course did not contain any parts concerning any moral issues. The course is openly available here: https://navoica.pl/courses/course-v1:UniwersytetSlaski+PS02+2021_3/about. This study was not pre-registered, but the database is available at the Open Science Framework (https://osf.io/543d9/).

Measures

The participants filled out the same survey as in Study 1.

Data Analyses

We used the JASP program version 0.14.3. to conduct the analyses, testing the differences between groups (pre-test and post-test).

Results

The differences between participants before and after the intervention are presented in Table 5. Regarding moral judgment, we observed significant differences in impartial beneficence, indicating that participants had lower levels of impartial beneficence after the course. It means that their positive utilitarian moral judgment had decreased. We observed no differences in instrumental harm and classical trolley dilemmas. Regarding mindfulness and self-compassion, we observed significant differences before and after the course, confirming the course's effectiveness.

General Discussion

We aimed to test whether mindfulness and self-compassion, including meditation practices, may be relevant to utilitarian moral judgment. Previous research already showed that such practices might be related to morality in many ways (Cheang et al., 2019; Donald et al., 2019; Shapiro et al., 2012; Verhaeghen & Aikman, 2020; Wang et al., 2017; Yang et al., 2020), and we studied if they may impact on utilitarian moral judgment. We conducted two studies that showed that

Table 5 Differences between pre-test and post-test (Wilcoxon signed-rank, $n = 41$)

	Pre-intervention		Post-intervention		W	p	Effect size*
	M	SD	M	SD			
Impartial Beneficence	3.278	1.180	3.000	1.157	421.500	0.012	0.503
Instrumental Harm	3.000	1.084	2.945	0.987	348.500	0.587	0.106
Switch	4.000	2.012	3.682	1.980	219.500	0.258	0.251
Footbridge	2.488	1.734	2.634	1.785	97.000	0.518	-0.160
Self-Compassion (SC)	2.494	0.709	3.373	0.666	9.000	<0.001	-0.979
SC Self-Kindness	2.580	0.928	3.629	0.792	22.000	<0.001	-0.944
SC Self-Judgment	3.415	0.918	2.678	0.914	655.500	<0.001	0.769
SC Common Humanity	2.872	0.936	3.909	0.788	11.000	<0.001	-0.972
SC Isolation	3.567	0.915	2.598	0.848	662.500	<0.001	0.989
SC Mindfulness	2.841	0.774	3.628	0.738	27.500	<0.001	-0.908
SC Over-Identification	3.738	0.868	2.854	0.816	653.000	<0.001	0.961
Mindfulness	2.155	0.459	2.794	0.464	35.00	<0.001	-0.915

*Rank-biserial correlation

mindfulness and self-compassion might be associated to or even change moral judgment. Study 1 showed that participants who meditated more often had lower levels of instrumental harm. Study 2 showed that the level of impartial beneficence decreased among participants after an 8-week course of mindfulness and self-compassion. Our findings are consistent with past research showing that mindfulness-based programs may increase empathy (Cheang et al., 2019), the level of moral reasoning (Shapiro et al., 2012), or sensitivity to moral foundations (Verhaeghen & Aikman, 2020), and with past research showing that higher levels of instrumental harm are related to lower moral sensitivity like a lower level of empathy (Kahane et al., 2018).

Our studies bring evidence that practicing meditation, mindfulness, and self-compassion may change how people think about right or wrong in utilitarian moral judgment, confirming previous predictions (Tan, 2021). Generally, we found that such practices were related to lower levels of utilitarianism, but depending on the study design, we observed a slightly different pattern of results. When we used the correlational study design, we found that frequent meditation was negatively related to instrumental harm, and we observed no significant results regarding impartial beneficence. When we used the experimental study design, we found that mindfulness and self-compassion intervention lowered impartial beneficence but did not impact instrumental harm. Those differences may be explained by the different study designs and the diverse samples in Studies 1 and 2. It may also be related to the fact that not in all samples, positive and negative dimensions of utilitarianism correlated with each other (Kahane et al., 2018) and the general complexity behind utilitarian moral judgments and their measurements (Conway, 2018; Conway & Gawronski, 2013; Crone & Laham, 2017).

Because our results showed complex relations regarding the utilitarian moral judgments in such a way that in

Study 1, we observed relations with the negative dimension of utilitarianism in Study 2 with the positive dimension of utilitarianism, we need more studies to understand more deeply why we observed those differences. We suspect that it may be related to the fact that Study 2 was an intensive psychological intervention during which participants trained themselves in mindfulness and self-compassion, and we also know that the number of regular meditations increased after the course. This may mean that intense training could lead to individuals focusing more on themselves, lowering their concern about others (increasing the happiness of others as the positive dimension of utilitarianism posits). However, we should be skeptical about any interpretation and need more studies to understand the complex relations between measured variables.

One possible way to understand this complexity could be by studying potential moderators or mediators in the relationship between mindfulness, self-compassion, and moral judgment. Because impartial beneficence is related to religiosity (Kahane et al., 2018; Paruzel-Czachura & Charzyńska, 2022), there is a possibility that this variable could play an important role here. Other possible variables, like age or sex, could also bring potentially relevant results, as well as political preferences (Haidt, 2012), moral absolutism (Vecina et al., 2016), or cultural factors like tightness and looseness (Uz, 2015). In sum, we need more studies to understand how exactly practicing may impact moral judgments.

One potentially interesting issue worth investigating is lowering impartial beneficence after the course. This finding contradicts the results showing that mindfulness is linked to prosocial behaviors (see meta-analysis: Donald et al., 2019). We showed that participants focused more on themselves and less on others, but generally, impartial beneficence is related to prosociality (Kahane et al., 2018). Of course, less caring about others may not mean being less prosocial

toward them, but we think studying future mechanisms related to this problem would be very interesting. Our result is consistent with the study, which showed that participants in the mindfulness (vs. control) exercise condition attenuated repair intentions after having read a scenario in which participants caused harm to a friend (Schindler et al., 2019). The authors suggested that if mindfulness is a state of paying conscious and nonjudgmental attention to present-moment experiences, it may affect moral reactions.

In sum, much research confirmed the impactful role of mindfulness, self-compassion, and meditation on our bodies and souls. Nevertheless, do they also impact how we think about right or wrong? We conducted two studies to answer this question and found that they may even change moral judgment. First, we observed a negative correlation between the frequency of meditations and instrumental harm (negative dimension of utilitarian moral judgment). Simply put, participants who meditated more often accepted less harming some individuals in the name of helping some group of people. Second, we observed that the 8-week course decreased impartial beneficence (positive dimension of utilitarian moral judgment). Simply put, people who received knowledge about mindfulness and self-compassion and could practice it cared less about bringing others more happiness. What else may mindfulness, self-compassion, and meditations change in our morality? We need more studies to find out.

Limitations and Future Directions

Although our studies shed new light on the understanding of how meditation, mindfulness, and self-compassion may be related to moral judgment, our research is not free from limitations. First, we measured only utilitarian moral judgment, so it is hard to make conclusions about different types of moral judgments. Second, our samples were not gender-balanced, and there is still a possibility that such practices may impact differently on men and women. That is why we recommend conducting future studies on more gender-balanced samples, which would allow for well-powered gender comparisons, as a consistent body of research has shown that women have a greater endorsement of care and fairness (e.g., Atari et al., 2020; Graham et al., 2009, 2011), higher empathy for others (e.g., Baez et al., 2017; Toussaint & Webb, 2005) and less disruptive behaviors (e.g., Knežević, 2018). Third, despite our sample size in Study 1 being satisfactory, the sample size in Study 2 could be bigger to allow conducting more advanced statistical analyses, e.g., measuring some possible interactions. However, we want to highlight that such a sample size is typical for experimental interventions about mindfulness and self-compassion. Fourth, in Study 2, we tested only one type of intervention, so it is hard to

make conclusions about other courses on similar topics. We recommend replicating our results using our free and open course. Moreover, future researchers could test the impact of different interventions on moral judgment. Fifth, Study 2 lacked a control group with no intervention. Future studies could add this control condition. Sixth, it is worth highlighting that our participants did not have a strong experience in meditation practice. We believe future studies could test more experienced participants, e.g., those who meditate for hundreds of hours in their lives. It is also important due to the definition and understanding of mindfulness and the respondents' understanding of questions in tools used to measure mindfulness (Belzer et al., 2013; Christopher et al., 2014; Feng et al., 2018). Seventh, because our studies were conducted in only one Western country, we cannot generalize the results to other populations. Future studies should include more culturally diverse samples, and we encourage other researchers to study the associations between meditation, mindfulness, self-compassion, and moral judgment in different cultural backgrounds, as past research has already shown that morality is culturally sensitive (e.g., Sorokowski et al., 2020; Turpin et al., 2021). Lastly, we want to highlight that we only focused on moral judgments, so it is hard to draw conclusions about a possible change in participants' behaviors. Past studies showed that it is hard to predict people's behaviors based on their answers to moral dilemmas (Bostyn et al., 2018), and we need more studies to understand the complex link between what people think and what people do. However, past studies have already demonstrated that after a short mindfulness course, participants acted to relieve another person's suffering more frequently than those who have not completed the course (Condon et al., 2013). Future studies could test more directly how such courses impact moral judgment and behaviors simultaneously.

Data Availability The data for the current studies are publicly available at Open Science Framework: https://osf.io/543d9/

Declarations

Ethics Approval The study was approved by the Ethics Committee of the University of Silesia. The consent was given in written form (number of decision: KEUS78U/02.2023).

Informed Consent Written informed consent was obtained from all participants prior to participation.

Conflict of Interest The authors declare no conflict of interest.

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