

The Effect of Mindfulness Meditation on the Decision to Engage in Deception

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### **Abstract**

The current paper assessed whether mindfulness meditation has an influence on deceptive decision making. Mindfulness meditation is likely to elicit increased ethical decision making, state moral awareness, and state mindfulness when practiced over a longer time frame. The present study investigated whether a single session can already elicit changes. There were 169 participants in the study, the results of which were subsequently assessed as to whether the single session affected deceptive decision making as well as state moral awareness, state mindfulness, and state compassion. A significant effect of a single session of mindfulness meditation and the mediation variables deceptive decision making, state moral awareness, state mindfulness, and state compassion could not be identified. Therefore, it has been assumed that a single session is not enough to elicit the changes in states that have been investigated. However, additional analyses have identified significant results which suggest state compassion to influence self-oriented lies vs. other-oriented lies in opposing relationships, i.e. a positive relationship to the one and an inverse relationship to the other. It is recommended to test in a further study the effects of two or three mindfulness meditation sessions on the variables of interest.

### The Effect of Mindfulness Meditation on the Decision to Engage in Deception

On the 17<sup>th</sup> of May 2019 a video was published which caught the former vice chancellor of Austria Heinz-Christian Strache offering illegal deals to an alleged niece of a Russian businessman. As it turned out, the niece in the video was not who Strache assumed she was after all but she purposely deceived Strache to uncover his intentions and bring these to the public's attention (Oltermann, 2019). But what exactly is deception? Deception is an act that is opposed to most individuals' moral standards. Deception is the intentional attempt to create a wrong belief in another person which the deceiver regards as untrue (Masip & Herrero, 2004). There are two kinds of deception: Firstly, to deceive for personal benefit and secondly, to deceive for the perceived benefit of the individual being faced (Harris, 2013). Deceiving is a highly egoistic act, therefore individuals that score high on self-centeredness and egoism are more likely to deceive (Harris, 2013; Shapiro, Jazaieri, & Goldin et al. 2012; von Dietze & Orb, 2000). The question is posed: Is there an approach to counteract deceptive tendencies? The present research investigates whether mindfulness meditation influences the likelihood of individuals engaging in deception.

Deception is regarded as morally wrong. Values of Christianity every western civilized individual consciously or unconsciously grew up with state in its 9<sup>th</sup> commandment "You shall not give false testimony" which guided past generations and their moral virtues through the last two millennia (Holy Bible, 2011; Peterson, Doidge, & van Scriver, 2018). Every individual has moral emotions that go further than the sole interest of the self (Eisenbeiss & van Knippenberg, 2015). Acting morally right means to act in a non-egoistic empathic and compassionate way with the individuals that surround us. Deception however does not acknowledge these values and is therefore classified as morally wrong. Therefore, individuals engaging in deception might lack moral awareness.

It appears that there is a way that can make individuals progressively morally aware - and possibly less deceptive - called mindfulness meditation (Davis, Hayes, & Jeffrey, 2012). Mindfulness meditation is derived from the Buddhist practice of meditation birthed approximately 2600 years ago (Eisenbeiss & van Knippenberg, 2015; Shapiro et al., 2012). Mindfulness meditation is paying attention to the present moment while purposely paying attention on being open minded, calm, kind, and nonjudgmental (Steffen & Larson, 2015). The individual aims to be aware of his or her internal state of mind and thoughts as well as externally being aware of what happens in the environment (Davis et al., 2012; Eisenbeiss & van Knippenberg, 2015; Shapiro et al., 2012). The attention is focused on a specific purpose which can be to clear the mind, scan the body, being compassionate, practicing gratitude, or to relax (Vich, 2015). The traditional Buddhist meditation is strongly intertwined with moral values. Mindfulness meditation itself however does not deliberately focus on moral values yet engaging in mindfulness meditation increases ethical reasoning (Krägeloh, 2016). But can mindfulness meditation also counteract deceptive tendencies?

Mindfulness can affect the state of mind of individuals that can in turn make them less likely to engage in deception. Deceivers are likely to score high on self-centeredness and egoism (Shapiro et al. 2012; von Dietze & Orb, 2000). Mindfulness does counteract this through helping the individual acquire a de-centered perspective (Krägeloh, 2016). It promotes the disidentification with selfish behaviour, it aims to counteract automatic self-grasping habits and leads individuals to be less egocentric (Shapiro et al. 2012).

The reason why mindfulness meditation leads to less self-serving tendencies stems from the scope of benefits its practice comprises. By putting special emphasis on paying attention to the present, the mind calms down (Krägeloh, 2016; Shapiro et al. 2012; Steffen & Larson, 2015; Vich, 2015). Throughout the day habitual thoughts hinder the mind from being focused and settled (Eisenbeiss & van Knippenberg, 2015; Vich, 2015). Mindfulness

meditation enables individuals to be aware of their emotions, show therefore greater insight, less self-serving tendencies, and can act more ethically as a result (Ruedy & Schweitzer, 2010; Shapiro et al. 2012). The emotional awareness is directly linked to the awareness on morality and ethics which consequently leads to the decrease in self-centeredness. Being aware of one's own emotions puts thoughts and the emotions in perspective and promotes the confidence to take acceptable action(s) (Shapiro et al. 2012). Being mindful makes individuals likely to act more principled in ethical decision making (Ruedy & Schweitzer, 2010). For this reason it is hypothesized that engaging in mindfulness will make an individual less likely to act morally unsound, and accordingly less likely to deceive.

As pointed out above, mindfulness meditation can be practiced without discrete focus on moral behaviour but can still have an effect on the decision to engage in deception. However, there is a form of mindfulness meditation specifically designed to activate moral reasoning: compassion mindfulness meditation. A compassion mindfulness meditation session is a guided meditation that invites the practitioner to imagine being compassionate with his or her family, friends, and even people that the practitioner dislikes. Compassion does include sympathy as well as pity. It requires the compassionate to be actively expressing compassion by entering an individual's experience and sharing the burden of suffering (Armstrong, Parsons, & Barker, 2000; Schantz, 2007; von Dietze & Orb, 2000). Compassion requires willingness of an individual to enter another person's problem (Armstrong et al., 2000; von Dietze & Orb, 2000). Shapiro et al. (2012) described compassion as a 'moral barometer' affecting the degree to which an individual is morally aware and the extent to which it affects moral judgement. Therefore, compassion is associated with diminished punitive tendencies which in turn can make individuals less likely to engage in deception (Shapiro et al. 2012). State-compassion can also be enhanced by mindfulness meditation that is not directed towards compassion specifically because it promotes constructs that in turn

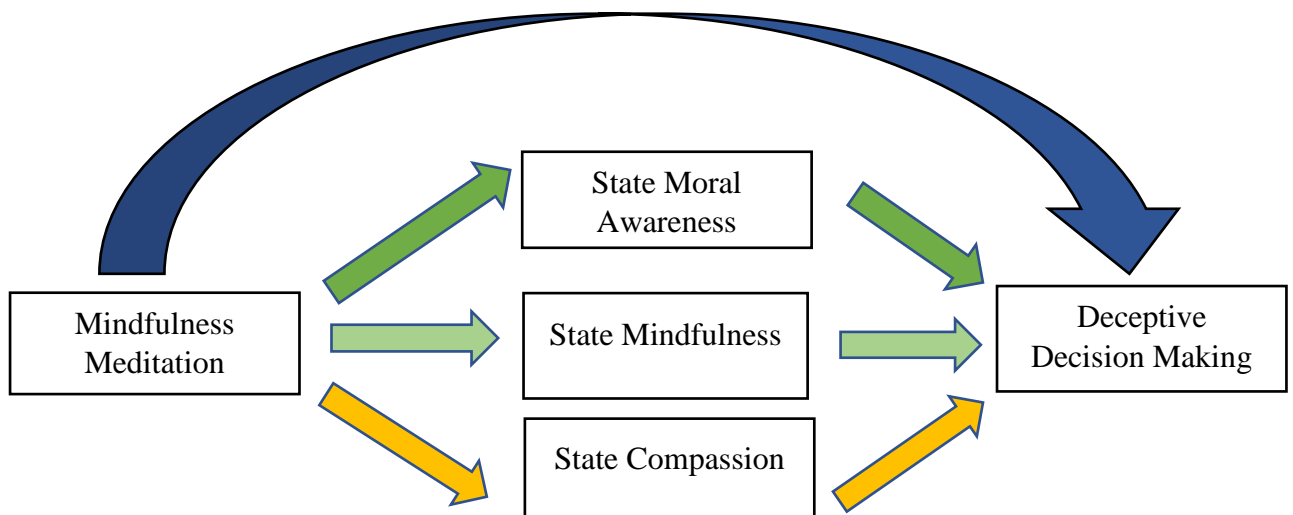
lead to more compassion, such as sympathy, empathy, acceptance and reasoned justification. (von Dietze & Orb, 2000; Schantz, 2007; Weng et al., 2013). Exploratively, compassion mindfulness meditation is expected to add to a greater extent to morally driven behavior than simple body scan mindfulness meditation due to the deliberate focus on the moral value. It is assumed that individuals engaging in compassion mindfulness meditation will be less deceptive than individuals engaging in body scan mindfulness meditation or individuals not engaging in any mindfulness meditation at all.

This paper investigates whether a single mindfulness meditation session lasting nine minutes can affect the proposed constructs. One might argue that one brief mindfulness meditation session cannot have a significant effect on the constructs being assessed in the present paper and in fact, each of the studies cited above did have multiple sessions of mindfulness meditation over a period of two up to eight weeks. There has not been comprehensive research on whether a brief mindfulness session can cause significant effects on moral behaviour. Nevertheless, there is evidence that even a brief session of mindfulness meditation has effects on the body and the psyche of individuals, a single session being capable of calming an individual's cardiovascular reactivity (Steffen & Larson, 2015). In the pioneering study of Mahmood, Hopthrow, and de Moura (2016), it was tested whether a five-minute body scan meditation can affect the state mindfulness of individuals. State mindfulness is the purposeful attention to the present moment, being awake, nonjudgmental, open, and able to maintain this state (Mahmood et al., 2016). Importantly, the researchers demonstrated that a single mindfulness meditation session has significant effects on state mindfulness. Furthermore, it has been discovered that implementing the five-minute meditation online rather than with an instructor is more effective. Therefore, the mindfulness meditation session was online in order to give participants more freedom to implement the meditation alone as well as the freedom to choose their location and time of the day to

participate (Mahmood et al., 2016). Finally, it is not necessary to be experienced in mindfulness meditation. Even with inexperienced individuals, immediate positive effects can be expected (Keng, Smoski, & Robins, 2011). Therefore, to a certain extent the present study does replicate the study of Mahmood (2016) implementing the study online with a single session that has a duration of nine instead of five minutes.

The hypotheses are tested in a study where participants received either a body scan mindfulness meditation, a compassion mindfulness meditation, or a control condition audio tape. It is then assessed whether deceptive tendencies differ between groups as well as whether state moral awareness, state mindfulness, and state compassion have a significant relationship on deceptive tendencies.

In the following the research model will be presented and subsequently the research question and hypotheses:



*Figure 1.* Research Model

**Research Question:**

*Does a single mindfulness meditation session make individuals less likely to engage in deception?*

**Hypotheses:**

*Hypothesis 1:* A single mindfulness meditation session makes individuals less likely to deceive compared to the control condition.

*Hypothesis 2a:* A single mindfulness meditation session increases moral awareness of individuals compared to the control condition.

*Hypothesis 2b:* A single mindfulness meditation session increases state mindfulness of individuals compared to the control condition.

*Hypothesis 2c:* A single mindfulness meditation session increases state compassion of individuals compared to the control condition.

*Hypothesis 3a:* Individuals scoring high on state moral awareness engage less in deceptive decision making compared to individuals scoring low.

*Hypothesis 3b:* Individuals scoring high on state mindfulness engage less in deceptive decision making compared to individuals scoring low.

*Hypothesis 3c:* Individuals scoring high on state compassion engage less in deceptive decision making compared to individuals scoring low.

**Methods****Participants and Design**

The participants were collected by the use of convenience sampling. The study was provided online to students of the University of Twente as well as distributed to individuals outside the University and were later asked about their proficiency with the English Language. The current study had 169 valid participants. Participants taking fewer minutes than the assigned audio lasted were excluded as well as participants taking fewer time for the questionnaires as reasonably possible. A total of 32 participants has been excluded. Across 22 Nationalities there were 102 (60.4%) German, 22(13%) Dutch and 45 (26.6%) participants from other Nationalities. About a third of the participants (30.7%) participated through the



university credit system, and the majority (69.3%) participated without being compensated. Participants were on average 24.97 years old ( $SD = 7.5$ ). There were 100 (59.2%) female participants, 67 (39.6%) male participants, and 2 (1.2%) participants with a non-binary gender identity. Within the three conditions there were 52 (30.8%) assigned to the compassion mindfulness meditation, 54 (32%) to the body scan mindfulness meditation and 63 (37.3%) to the control condition after the exclusion of invalid subjects.

The present research consisted of a between-subjects design with three independent variables (IV) namely compassion mindfulness meditation, body scan mindfulness meditation, and the control condition. These were followed by three mediator variables (MV) which were state moral awareness, state mindfulness, and state compassion. Finally, the dependent variable (DV) was deceptive decision making measured by the *Deception Scenarios*.

### **Procedure**

The study was implemented online. Participants were asked to isolate themselves and put on headphones if possible, using their laptop or smartphone. Following a link to Qualtrics, participants were first presented with the informed consent (Appendix A) before continuing to the first part of the Study. Participants were randomly assigned to one of the three conditions. The only difference between the conditions was the audio participants listened to which were the body scan mindfulness meditation, the compassion mindfulness meditation, or the control condition audio. Thereafter participants were presented with eight *Deception Scenarios* investigating the participants deceptive decision making. Finally, participants completed three questionnaires: The *MFQ20*, the *SCBCS*, and the *TMS* which will be explained subsequently.

### **Materials and Measures**

Participants answered four questionnaires as well as questions concerning demographics and possible exclusion criteria. In the following the four questionnaires are explained.

***Deception Scenarios (Appendix B).***

The *Deception Scenarios* consisted of eight schemes. Participants were asked to indicate their reaction when identifying with the scenarios presented. Participants could choose two answer options: “Tell a lie” or “Tell the truth”. The first four scenarios assessed self-oriented lies whereas the latter four assessed other-oriented lies. An example of a self-oriented lie is: “Imagine a friend went to the hairdressers and asks you what you think of his/her new haircut. You actually don't like it at all. When you are honest about your opinion, you could seem to be unfriendly. What would you do?”. An example of an other-oriented lie is: “At your birthday you got a gift from someone. He/she asked if you liked it. You didn't like this present at all, and you didn't really need it. If you told the truth about the gift you would probably hurt his/her feelings. What did you do?”. The distinction between self and other-oriented lies was used in additional analyses.

***MFQ20 (Moral Foundations Questionnaire) (Appendix C).***

State moral awareness was measured using the *MFQ20* which will also be referred to as *Morality Scale*. The scale consists of 20 items which measure the individual's moral foundations (Dobolyi, 2016). The first 10 items are answered on a scale from 0-5 (0 = not at all relevant, 5 = extremely relevant and the items 11-20 were answered on a scale from 0-5 (0 = strongly disagree, 5 = strongly agree). An example for the first cluster is “Whether or not someone cared for someone weak or vulnerable”. An example from the second cluster is “People should be loyal to their family members, even when they have done something wrong”. The *MFQ20* showed a Cronbach's Alpha of .72 which suggests an acceptable internal consistency.

***TMS (Toronto Mindfulness Scale) (Appendix D).***

State mindfulness was measured using the *TMS* which will also be referred to as *Mindfulness Scale*. The scale consists of 13 items (Lau et al., 2006). Participants score the statements from 0-4 (0 = not at all, 4 = very much). An example is: "I was curious about each of the thoughts and feelings that I was having". Due to an error, participants only answered 12 instead of 13 items in the current study. Nevertheless, its coefficient alpha of .87 is showing approximately excellent internal consistency.

***SCBCS (Santa Clara Brief Compassion Scale) (Appendix E).***

State compassion was measured using the *SCBCS* which will also be referred to as *Compassion Scale*. (Hwang, Plante, & Lackey, 2008). Participants answered five questions on a scale ranging from 1-7 (1= not at all true of me, 7 = very true of me). "I tend to feel compassion for people, even though I do not know them" is an example of one of the five questions. The *SCBCS* proved good reliability with a coefficient alpha of .80.

## **Results**

### **Descriptive Statistics**

Average scores were calculated for the *Deception Scenarios* and the state variables moral awareness, mindfulness, and compassion. The *Deception Scenario* scores ranged from 0-8 (0 = no lies, 8 = lies exclusively) and had a mean of  $M = 4.19$ . Participant's scores ranged from a minimum of 0 to a maximum of 8 across the conditions. The *Morality Scale* (1= low, 6 = high) displayed a mean of  $M = 3.95$  with scores ranging from a minimum of 2.25 to a maximum of 5.25. The *Mindfulness Scale's* scores (1= low, 5 high) varied from 1 to 4.67 with a mean of  $M = 3.03$ . Finally, the *Compassion Scale* (1 = low, 7 = high) showed a mean of  $M = 5.13$  with min. scores from 1.8 to max. scores of 7.

**Table1.** This table shows the condition's mean (*M*), standard deviation (*SD*), and significance (*p*) on the *Deception Scenarios* as well as the *Morality, Mindfulness, and Compassion Scale*.

Conditions	Compassion Mindfulness Meditation		Body Scan Mindfulness Meditation		Control Group		
Construct	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>p</i>
<i>Deception Scenarios</i>	4.08	1.32	4.15	1.50	4.32	1.29	.62
<i>Morality Scale</i>	3.90	.52	3.92	.55	4.01	.52	.50
<i>Mindfulness Scale</i>	3.21	.71	3.02	.71	2.89	.81	.07
<i>Compassion Scale</i>	5.31	.94	5.07	1.11	5.05	.93	.26

### Inferential Statistics

*Hypothesis1* assessed whether the independent variable mindfulness meditation had an influence on the dependent variable *Deception Scenarios*, was assessed with a One-Way ANOVA. No significant effect was found  $F(2, 166) = 0.47, p = 0.623$ . Therefore, the first hypothesis was rejected.

*Hypothesis2a* measured whether mindfulness meditation (IV) affected the *Morality Scale* (DV). A One-Way ANOVA did result in a trend  $F(2, 168) = 0.70, p = 0.498$ . Therefore body scan mindfulness meditation ( $M = 3.02, SD = .71$ ), and compassion mindfulness meditation ( $M = 3.22, SD = .71$ ) did show differences to the control condition ( $M = 2.89, SD = .81$ ).

To test *Hypothesis2b*, whether mindfulness meditation (IV) affected the *Mindfulness Scale* (DV) a One-Way ANOVA has been conducted. The analysis showed a trend  $F(2, 168) = 2.735, p = 0.07$ , with a mean of  $M = 3.03$  and a standard deviation of  $SD = 0.76$ .

To test *Hypothesis2c* a One-Way ANOVA has been conducted to test whether mindfulness meditation (IV) has an influence on the *Compassion Scale* (DV). This was not the case  $F(2, 168) = 1.35, p = 0.26$ . Therefore, the fourth hypothesis has been rejected.

*Hypothesis3a* assessed whether scores on the mediator variable (MV) *Morality Scale* have an effect the *Deception Scenarios* (DV). A Linear Regression analysis did not show a significant relationship  $F(3, 165) = 1.155, p = 0.84$  with an  $R^2$  of .021. As a result, the fifth hypothesis has been rejected.

To test *Hypothesis3b* a Linear Regression analysis has been conducted. There has no significant relationship been found between the *Mindfulness Scale* (MV) and the *Deception Scenarios* (DV)  $F(3, 165) = 1.115, p = 0.088$  with an  $R^2$  of .021. Accordingly, the hypothesis has been rejected.

Finally, *Hypothesis3c* tested the relationship of the *Compassion Scale* (MV) on the *Deception Scenarios* (DV). Again, a Linear Regression analysis did not show a significant relationship  $F(3, 165) = 1.155, p = 0.939$ .

### **Additional Analysis**

A regression analysis of the *Compassion Scale* (MV) with other-oriented lies (DV) has shown a significant result  $F(3, 165) = 3.122, p = 0.03$  with an  $R^2$  of .05. The resulted negative significant correlation is  $r = -.17$ . This means that the higher an individual scored on state compassion, the more he or she engaged in other-oriented lying.

A further regression analysis of the *Compassion Scale* (MV) towards self-oriented lies (DV) did result in a trend  $F(3, 165) = 1.542, p = 0.06$  with an  $R^2$  of .01. The trend showed a positive correlation of  $r = .16$  which is inverse to the positive correlation pointed out above. This means that the higher an individual scored on state compassion, the less he or she engaged in self-oriented lying.

### Discussion

The present study investigated the research question: “Does a single mindfulness meditation session make individuals less likely to engage in deception?”. None of the hypotheses could be approved through the statistical analysis. A statistically significant effect of mindfulness meditation on deceptive decision making, state moral awareness, and state compassion could not be identified. Similarly, no relationship of state moral awareness and state compassion on deceptive decision making could be identified. Nevertheless, a trend of state mindfulness on deceptive decision making was found. The additional analysis found a statistically negative the relationship of state compassion and other-oriented lies as well as a positive trend between state compassion and self-oriented lies. In the subsequent section reasons are pointed out that can perhaps explain the results found.

The study explored whether a single mindfulness meditation session can have effects on the variables of deceptive decision making, state moral awareness, state mindfulness, and state compassion. There has been ample evidence regarding long-term effects of mindfulness meditation which resulted in effects on ethical decision making, state moral awareness, and state mindfulness (Ruedy & Schweitzer, 2010; Shapiro et al. 2012; Vich, 2015). This suggests that having multiple mindfulness meditation sessions across a longer time frame can result in significant differences between conditions. Therefore, it is likely that one session only has limited effects.

A further reason may be that no meaningful difference has been found when comparing the mindfulness conditions to the control. This raises the question whether the mindfulness meditation audio sessions were not of sufficient quality. The audios have been obtained with the help and confirmation of the app “Stop, Breathe & Think”, the creators of which put research into the meditations offered. This makes it unlikely that the audio’s quality has been the reason for not finding a meaningful difference but cannot be excluded

(One Long House, 2019).

A further reason why the compassion mindfulness meditation session did not affect the constructs might be the lack of evidence gathered to support the related hypotheses connecting mindfulness meditation with compassion as well as compassion with deceptive decision making (Ruedy & Schweitzer, 2010; Shapiro et al. 2012; Vich, 2015). Except for a loving kindness meditation that is comparable to the compassion mindfulness meditation which did not result in significance, no prior comparable studies have been conducted (Shapiro et al. 2012). The hypotheses regarding the compassion group have been based on suggestive literature and has been therefore partly conducted on an explorative basis (Ruedy & Schweitzer, 2010; Shapiro et al. 2012; Vich, 2015).

In addition to the general reasons pointed out above that might have affected the entire study, there are hypothesis specific considerations which may explain why the related hypothesis was not or only partly met. These as well as interpretations are discussed hereafter. In the current study the first hypothesis, whether a single mindfulness meditation session makes individuals less likely to deceive compared to the control condition, did not come to a conclusive end. Participants lied equally much independent of the allocated condition. Therefore, it is likely that a single mindfulness meditation session does not affect an individual's decision to engage in deception.

Furthermore, it was assumed that there is a positive effect of mindfulness meditation on moral awareness (*Hypothesis2a*). This was not the case. Although it was argued that an emphasis on morality is not necessary to foster moral awareness, neither the body scan nor the compassion mindfulness meditation affected its significance (Krägeloh, 2016). A reason for this can be the questionnaire itself. The *MFQ20* did not reflect a construct of state moral awareness but instead trait moral awareness (Dobolyi, 2016). The majority of the questions did not aim at the current state of morality and it is likely that the effects of the meditations

on the *Morality Scale* were insufficient as a consequence. Therefore, it cannot be concluded - nor dismissed - that a single mindfulness meditation session does not affect state moral awareness.

The mindfulness conditions showed a trend but no significance affecting state mindfulness compared to the control condition (*Hypothesis2b*). A reason can be that *TMS*, used to measure state compassion, has been sufficiently validated however the study referred to in the introduction used a pretest-posttest design which as the authors of the study admit might have helped the subjects due to contextual knowledge to significant results (Mahmood et al., 2016). The current study used a control group design so that participants only filled the *TMS* in once to prevent subjects from having contextual knowledge (Mahmood et al., 2016). Subsequently this did not result in significant outcomes in the current study. On the other hand, the error which resulted in having only 12 instead of 13 items in the *Mindfulness Scale* can also be the cause why statistical significance could not be concluded. This constellation of evidence makes a conclusive statement troublesome whether an effect of state mindfulness has taken place through mindfulness meditation.

Furthermore, it was hypothesized that the mindfulness meditation conditions affect state compassion, as compared to the control condition (*Hypothesis2c*). As pointed out previously, the hypothesis was based on an explorative assumption. It was assumed that especially the compassion mindfulness meditation elicits state compassion due to the content being specifically constructed to foster a state of compassion (One Long House, 2019). However, one session of mindfulness meditation was not enough to elicit said change.

Moreover, it was assumed that individuals scoring high on the *MFQ20* which represented state/trait moral awareness would be less likely to engage in deceptive decision making (*Hypothesis3a*). There was no significance found supporting this hypothesis. It has been argued that individuals high in moral attentiveness do act more ethically however,



individuals did not differ significantly in their deceptive decision making independent from their score on the *Morality Scale* (Ruedy & Schweitzer, 2010). In line with the resultant outcome is a study that could not identify immediate effects on moral reasoning and moral decision making (Shapiro et al. 2012). However, in a two month follow up the same study found significant effects on both moral reasoning and moral decision making and identified the reason that both skills are acquired through practice. This again suggests that the single session only has not been enough to cause a significant change. A longitudinal study however might be likely to detect significant results.

In addition, it has been investigated whether individuals scoring high on state mindfulness do engage less in deceptive decision making (*Hypothesis3b*). A reason why a significant result has not been found might derive from a study of Ruedy and Schweitzer (2010). The study's findings showed that individuals high on mindfulness engage less in cheating and promote ethical decision making (Ruedy & Schweitzer, 2010). As this strongly supports the study's investigation but not its result the question is posed: Does being ethical regarding the *Deception Scenarios* not mean to be as honest as possible in order to prevent harm in the long-term or did participants fail to take long-term consequences into account?

Finally, it was supposed that individuals scoring high on state compassion engage less in deceptive decision making compared to individuals scoring low on state compassion (*Hypothesis3c*). This has not been supported however, surprising results have been found in the additional analysis when the distinction was made between self-oriented and other-oriented lies.

### **Additional Findings**

The findings of the additional analyses suggest that the higher individuals score on state compassion, the more individuals engage in other-oriented lying. At the same time, a trend showed that the higher individuals score on state compassion the less individuals

engage in self-oriented lying.

It is crucial to consider the point of view when interpreting these results regarding self and other-oriented lies. According to Harris (2013), an act of deception is the quintessence of arrogance and the individual engaging in deception is to blame for acting unethically.

Contrary, deceiving especially regarding the other-oriented lies in the *Deception Scenarios* cannot be seen as a purposely unethical act because engaging in such a lie aims at protecting the person being deceived. There are more ways an individual could think of when acting intentionally unethical. To choose one of the two positions, a person has to assess whether the short-term gain of a lie outweighs its possible setback in the long run.

### **Limitations and recommendations**

As identified earlier some of the questionnaires might not have been the best option for the current study. Especially the *MFQ20* which measures trait instead of state moral awareness limited the related measure. Further research into state moral awareness scales is recommended while considering that it should not resemble the *Deception Scenarios* too closely. Similarly, the *Deception Scenarios* were not constructed to specifically test the construct of deceptive decision making and it is recommended to investigate into different options.

Another limitation might be the participants understanding of the term compassion. As Schantz (2007) pointed out in his paper, compassion is a construct that incorporates a variety of meanings which might have gotten lost by non-native English speakers. It is recommended to find a way of educating participants about the term without creating a bias to one of the conditions. Moreover, the English skills of the participants should be assessed. The current study did assess English skills however, there has been a flaw in the scale which affected the participants answers to the scale. Therefore, the assessment could not be used.

A further limitation is that there was no pre-definition of exclusion criteria. Creating

exclusion criteria would help to further standardize the current study and make possibly significant results more valid. Finally, it is suggested to make use of technology as a mousepad tracker to get closer to identifying whether participants actually meditated without infiltrating their privacy.

### **Conclusion**

The current study suggests that a single session of a body scan mindfulness meditation or a compassion mindfulness meditation did not sufficiently affect a state of mindfulness and thereby affect differences in the *Deception Scenarios*. Although flaws have been identified within the current study, it is assumed that the design itself, having a single session of mindfulness meditation, is the primary reason for not finding significance in state moral awareness, state mindfulness, state compassion, or deceptive decision making. This provides useful insight into the effects of a single mindfulness meditation. However, it remains interesting whether only little practice of mindfulness meditation can affect the constructs assessed in the current study. Therefore, it is recommended to repeat the current study repairing the flaws pointed out while using a design that integrates further iterations of mindfulness meditation sessions, e.g. two, three, or seven within a time frame of two, three, or seven days respectively.

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## Appendices

### Appendix A

#### Informed Consent

Dear Participant,

thank you for your interest and willingness to participate in the current study. Within the scope of this study I investigate effects of different interventions on decision making. In the following you will be asked to listen to an audio tape and answer four subsequent questionnaires. Finally, you will read a short scenario and answer a few more subsequent questions. The study is expected to take between 20 and 25 minutes. In order to participate it is of importance to be at a quiet location where you are not disturbed! Headphones are strongly recommended but in case of a very quiet environment not necessary. I would like to point out that your participation in the current study is entirely voluntary and that you can withdraw from the study at any time. The data obtained by your participation will be treated strictly confidential. The data analysed will be anonymized. With the end of the data collection the questionnaires will be deleted.

In case you have questions or remarks regarding the present study, please contact me by means of the following e-mail address: [v.l.sigle@student.utwente.nl](mailto:v.l.sigle@student.utwente.nl)

I am grateful for your participation!

Valentin Sigle

With your consent you agree to the conditions pointed out above and are able to continue

- I consent
- I do not consent and therefore do not participate and will not receive any credit points

**Appendix B***Deception Scenarios*

In this second part you are presented with a number of everyday scenarios. Imagine yourself facing the scenario described as well as your reaction. Then choose one of the two answer options.

Self-oriented lies

A friend went to the hairdressers and asked you what you thought of his/her new haircut. You actually didn't like it at all. When you were honest about your opinion, you could seem to be unfriendly. What did you do?

- I've lied
- I've told the truth

A friend asked you to catch up and do something fun. But you're not in the mood to do something nice with your friend. If you were honest about why you didn't feel like meeting up there was a chance that you would seem to be unfriendly. What did you do?

- I've lied
- I've told the truth

You have an important meeting, but you were late because you took too long to get out of the house. You tell the people in the meeting that:

- You were stuck in traffic/your train got delayed, because you don't want to lose credit.
- You tell the truth, with the possibility you lose credit.



You are at a job interview. You are being asked if you have experience in a relevant aspect of the job, which you haven't (for instance you are asked if you are experienced at working at a restaurant while you've only done the dishes):

- You want the job very badly, so you tell the interviewer you do have experience.
- You tell you don't have the experience, with the possibility you don't get the job.

#### Other-oriented lies

A good friend of yours got a new partner. You didn't like this person at all. On the other hand your friend was very enthusiastic about him/her. When you told your friend your honest opinion about the new partner, your friend would probably be hurt. What did you do?

- I've lied
- I've told the truth

At your birthday you got a gift from someone. He/she asked if you liked it. You didn't like this present at all, and you didn't really need it. If you told the truth about the gift you would probably hurt his/her feelings. What did you do?

- I've lied
- I've told the truth

A good friend of yours cancelled your appointment because something important has come between (for example: Her grandmother was hospitalized). He/she asked if you bothered. You were afraid that if you told her that you actually did care, she would feel guilty. What did you do?

- I've lied
- I've told the truth

Your friend asks you if you think he/she is too emotional as a person. In fact, he/she is. You tell him/her:

- That it is not the case because you don't want to hurt his/her feelings because he/she already is feeling insecure.
- You tell her she is too emotional, with the possibility you hurt his/her feelings.

**Appendix C***MFQ20 (Moral Foundations Questionnaire)*

*Part 1. When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:*

[0] = not at all relevant (This consideration has nothing to do with my judgments of right and wrong)

[1] = not very relevant

[2] = slightly relevant

[3] = somewhat relevant

[4] = very relevant

[5] = extremely relevant (This is one of the most important factors when I judge right and wrong)

\_\_\_\_\_ Whether or not someone suffered emotionally

\_\_\_\_\_ Whether or not some people were treated differently than others

\_\_\_\_\_ Whether or not someone's action showed love for his or her country

\_\_\_\_\_ Whether or not someone showed a lack of respect for authority

\_\_\_\_\_ Whether or not someone violated standards of purity and decency

\_\_\_\_\_ Whether or not someone was good at math

\_\_\_\_\_ Whether or not someone cared for someone weak or vulnerable

\_\_\_\_\_ Whether or not someone acted unfairly

\_\_\_\_\_ Whether or not someone did something to betray his or her group

\_\_\_\_\_ Whether or not someone conformed to the traditions of society

\_\_\_\_\_ Whether or not someone did something disgusting

*Part 2. Please read the following sentences and indicate your agreement or disagreement:*

[0]	[1]	[2]	[3]	[4]	[5]
Strongly	Moderately	Slightly	Slightly	Moderately	Strongly
disagree	disagree	disagree	agree	agree	agree

\_\_\_\_\_ Compassion for those who are suffering is the most crucial virtue.

\_\_\_\_\_ When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.

\_\_\_\_\_ I am proud of my country's history.

\_\_\_\_\_ Respect for authority is something all children need to learn.

\_\_\_\_\_ People should not do things that are disgusting, even if no one is harmed.

\_\_\_\_\_ It is better to do good than to do bad.

\_\_\_\_\_ One of the worst things a person could do is hurt a defenceless animal.

\_\_\_\_\_ Justice is the most important requirement for a society.

\_\_\_\_\_ People should be loyal to their family members, even when they have done something wrong.

\_\_\_\_\_ Men and women each have different roles to play in society.

\_\_\_\_\_ I would call some acts wrong on the grounds that they are unnatural.

**Appendix D***Toronto Mindfulness Scale (TMS)*

<b>Instructions:</b>	0	1	2	3	4
<p>We are interested in what you just experienced. Below is a list of things that people sometimes experience. Please read each statement. Next to each statement are five choices: “not at all,” “a little,” “moderately,” “quite a bit,” and “very much.” Please indicate the extent to which you agree with each statement. In other words, how well does the statement describe what you just experienced, just now?</p>	Not at all	A little	Moderately	Quite a bit	Very much
1. I experienced myself as separate from my changing thoughts and feelings.					
2. I was more concerned with being open to my experiences than controlling or changing them.					
3. I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings or sensations.					
4. I experienced my thoughts more as events in my mind than as a necessarily accurate reflection of the way things ‘really’ are.					
5. I was curious to see what my mind was up to from moment to moment.					

6. I was curious about each of the thoughts and feelings that I was having.					
7. I was receptive to observing unpleasant thoughts and feelings without interfering with them.					
8. I was more invested in just watching my experiences as they arose, than in figuring out what they could mean.					
9. I approached each experience by trying to accept it, no matter whether it was pleasant or unpleasant.					
10. I remained curious about the nature of each experience as it arose.					
11. I was aware of my thoughts and feelings without overidentifying with them.					
12. I was curious about my reactions to things.					
13. I was curious about what I might learn about myself by just aking notice of what my attention gets drawn to.					

Scoring:

Key: All items were written in the positively keyed direction, so no reverse scoring of items is required.

Curiosity score: The following items are summed: 3, 5, 6, 10, 12, 13

Decentering score: The following items are summed: 1, 2, 4, 7, 8, 9, 11

**Appendix E***SCBCS (Santa Clara Brief Compassion Scale)*

Please answer the following questions honestly and quickly using the scale below:

1= not at all true of me 7= very true of me

	1	2	3	4	5	6	7
When I hear about someone (a stranger) going through a difficult time, I feel a great deal of compassion for him or her.							
I tend to feel compassion for people, even though I do not know them.							
One of the activities that provide me with the most meaning to my life is helping others in the world when they need help.							
One of the activities that provide me with the most meaning to my life is helping others in the world when they need help.							
I often have tender feelings toward people (strangers) when they seem to be in need.							