



## “Assessing mindfulness and discernment”

Day: Thursday 12th July 2018      Time: 10:45 – 12:00      Track: Philosophical and Dharma Underpinnings

The first presenter, Josef Mattes, will speak about a systematic review and meta-analysis of the relationship of different facets of mindfulness with various outcomes, taking into account possible moderators and controlling for publication bias.

The second presenter, Oscar Lecuona, will talk about a study that aims to evaluate the psychometric quality of validation studies regarding the FFMQ, and its replicability.

Sarah Chan, the third presenter will discuss two studies that were conducted to validate the Discernment Scale and that examined the differential effects of secular mindfulness and discerning mindfulness through an experiment.

Finally, Harald Walach will talk about a study that started to develop categories that can be used for behavioral ratings asking the question: How would mindfulness be visible to outside observers?

### Symposium overview

- Presenter 1**      **Josef Mattes** - Systematic review and meta-analysis of correlates of FFMQ mindfulness facets
- Presenter 2**      **Oscar Lecuona** - A psychometric review and replication study of the Five Facets of Mindfulness Questionnaire (FFMQ) latent structure.
- Presenter 3**      **Sarah Chan** - Secular mindfulness and discerning mindfulness: Discernment Scale validation and experimental study on their differential effects
- Presenter 4**      **Harald Walach** - Towards an objective behavioral assessment system of mindfulness
- Chair:**              **Harald Walach**



## **Systematic review and meta-analysis of correlates of FFMQ mindfulness facets**

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**Background:** A number of meta-analyses of mindfulness have been performed, but currently none distinguishes between different facets of mindfulness, despite it being known that facets of mindfulness behave differently in different population. In addition, there has recently been some concern regarding possible publication bias in mindfulness research.

**Objective:** Systematic review and meta-analysis of the relationship of different facets of mindfulness with various outcomes, taking into account possible moderators and controlling for publication bias.

**Method:** Random effects meta-analysis with a number of robustness checks and estimation of the possible impact of publication bias on the results. Various possible moderators are taken into account.

**Study registration:** PROSPERO International prospective register of systematic reviews  
[http://www.crd.york.ac.uk/PROSPERO/display\\_record.asp?ID=CRD42016041863](http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42016041863)

**Results:** Across conditions, Describing, Acting-with-awareness, Nonjudging and Nonreacting are moderately and non-redundantly correlated with outcomes. Nevertheless, precision of estimates is negatively impacted by heterogeneity and a lack of repeated use of measures. Results seem to be reasonably robust to publication bias. Besides the well-known meditators versus non-meditators distinction for the Observe facet, some other moderators appear to influence effects, but the subsamples involved are often small and the underlying patterns somewhat erratic-looking.

**Conclusion:** Four of the five FFMQ facets are correlated with outcomes, this results is unlikely to be due to publication bias. Nevertheless, more studies with repeated use of the same outcome measures and/or larger samples are needed.



## **A psychometric review and replication study of the Five Facets of Mindfulness Questionnaire (FFMQ) latent structure.**

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**Background and objectives:** The Five Facets of Mindfulness Questionnaire (FFMQ) is currently a recent standard in mindfulness research given its popularity and usage. Its status is given by high-impact publications researching on its psychometric structure and properties, and several international validations and translations. Still, some controversy is held towards the instrument, with contributions reporting bad fit regarding original latent structures, and conceptual or ecological validity. To overcome such issues, some alternative models were proposed to fix possible issues regarding factor structure. This landscape, in the context of the replication crisis and its proposed solutions, leads to the need to assess (1) the psychometric quality of validation studies regarding the FFMQ, and (2) its replicability. The present research aims to evaluate both objectives.

**Methods:** A review of the FFMQ's validation studies was performed. Also, a replication study was performed using both frequentist (Confirmatory Factor Analysis) and bayesian (Bayesian Structure Equation Modeling) techniques analyzed a sample of 800 participants in a comprehensive series of models, crossing three variables: (1) Overall mindfulness factor (hierarchical or bifactor), (2) inclusion of method factors (none, one or two) and (3) the inclusion of the Observe facet (inclusion or exclusion).

**Results:** Several questionable psychometric practices arose from most of validation studies, raising concerns about the FFMQ's psychometric quality. Regarding the replication study, both techniques provided lack of support for proposed dimensional structures: The original, hierarchical structure did not provide a good fit in any case, while the best model consisted in a bifactor structure, two method factors, and removing the Observe facet. Alternative models proposed by literature did not provide good fit, except a bifactor method with two method factors and the Observe facet included, which passed the criteria only in the CFA framework. Regarding BSEM, similar results were found even allowing for cross-loadings.

**Discussion and conclusion:** Evidence suggests a questionable psychometric state-of-the-art regarding the FFMQ, alongside a failed replication of the structure of the FFMQ. Both conclusions lead to a reflection that the FFMQ might be in need of psychometric improvement. Future research proposals on improving techniques and models towards mindfulness assessment are presented and discussed.



## **Secular mindfulness and discerning mindfulness: Discernment Scale validation and experimental study on their differential effects**

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**Background:** Discernment of the moment-to-moment experience as being wholesome, unwholesome, or neutral, in contrast to the secular mindfulness that often emphasizes on acceptance and nonjudgment, can enable people not only to achieve a peaceful mind but also to guide wise choices. Nevertheless, this Buddhism-derived concept has been neglected in the mindfulness literature. Considering its importance, two studies were conducted to validate the Discernment Scale and examined the differential effects of secular mindfulness and discerning mindfulness through an experiment.

**Method:** In study 1, 704 college students were recruited and they completed the Discernment Scale and other well-being constructs to examine the construct validity. In study 2, 177 participants were recruited and randomized to the (1) secular mindfulness, (2) discerning mindfulness, or (3) control condition. Participants in the secular mindfulness and discerning mindfulness condition were asked to watch a 15-minute video introducing them the concept of mindfulness or discerning mindfulness. They were then guided to practice secular mindfulness or discerning mindfulness through a 15-minute audio. Participants in the control condition were asked to watch a 15-minute video on natural environment and were guided to wander their mind freely for 15 minutes. All participants then completed post-assessment.

**Results:** In study 1, exploratory factor analysis showed a 5-factor solution. Exploratory structural equation modeling bi-factor analysis also showed satisfactory model fit for the scale structure. In study 2, results showed that participants in both secular and discerning mindfulness condition showed significant improvement on decentering, emotion regulation, and peace of mind at post-assessment while no improvement was shown in the control condition. Results also showed that only participants in the secular mindfulness condition showed significant increase on nonjudging, while no changes were shown in the discerning mindfulness or the control condition.

**Discussion:** The study operationalized the concept of discernment and supported the benefits of both secular mindfulness and discerning mindfulness on well-being promotion. While both secular mindfulness and discerning mindfulness showed effects on the improvement of well-being, only secular mindfulness increased nonjudgement. Future study may examine how discernment and nonjudgment differentially affect decision making and related actions.



## **Towards an objective behavioral assessment system of mindfulness**

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**Background and Objectives:** Measuring mindfulness is conventionally done using self-rating questionnaires. This has been criticized because of methodological weaknesses like potential desirability bias and response shift. We therefore started to set out to develop categories that can be used for behavioral ratings asking the question: How would mindfulness be visible to outside observers?

**Method:** We put this question in front of 23 different experts in the field, some of whom were meditation trainers and retreat leaders, Zen or other meditation masters and some of whom were predominantly practitioner-researchers of mindfulness. Extensive interviews were conducted following an interview guideline and the results were analyzed using content analytical methodology.

**Results:** We found converging evidence for stable categories that we developed in a mixed approach, using the theory of mindfulness from Buddhist teaching as well as the empirical categories emerging from the interviews. Eight categories emerged that were mentioned by at least two respondents simultaneously: Presence, body language, inner stance, resonance, ethical behavior, authenticity, being related and able to relate, cognitive meta-level. These categories were also filled by subcategories and provide a rich material that can be used to construct concrete items for an external behavioral rating.

**Discussion:** Although not free from bias items that can be observed by others and rated in, for instance, video of behavioral or communication sequences are less prone to measurement errors. We have provided the raw material that can be used for constructing observational scales or rating patterns.

**Conclusion:** It is possible to find a consensus across various experts on what constitutes mindful behavior or mindfulness as visible to the outside world. This can be further used in constructing potentially more valid scaling systems of mindfulness.