> Our new version of the Freiburg Mindfulness Inventory (FMI) with norm data from a representative German sample is now available (https://link.springer.com/article/10.1186/s40359-025-03671-3).

When Mindfulness-Based Stress Reduction (MBSR), developed by Jon Kabat-Zinn, became known in Germany at the end of the 1990s, I conducted some of the first scientific work on mindfulness together with a number of students. In 1999, Marcus Majumdar and I conducted the first evaluation of an MBSR training programme [1-3], for which we received the Continentale Insurance Research Award. Nina Buchheld, now Nina Rose, also approached me at that time with the suggestion of writing a thesis on the subject of mindfulness. We decided to develop a mindfulness questionnaire, the Freiburg Mindfulness Inventory (FMI) [4, 5]. If I am not mistaken, this was the first questionnaire instrument for measuring mindfulness. Shortly afterwards, research exploded and a wealth of other questionnaires were developed. Our instrument, the FMI, had a certain unique selling point: Nina Buchheld derived the items strictly empirically from Buddhist mindfulness literature, presented a long list of possible items to various mindfulness teachers and asked them to assess how accurate and understandable they were. From this initial list, she selected the items that were considered best and gave them to a sample group. The 30 questions that had the best psychometric properties were then included in our long version of the questionnaire. This was immediately translated into English by Paul Grossman [6].

I then carried out a new psychometric validation with several other students in two larger samples and developed a short version with 14 items [7]. The idea was to have a questionnaire instrument available for people who had no theoretical or experiential background in mindfulness meditation or similar practices. We therefore excluded all questions that did not have good psychometric properties in a ‘normal’ random sample of very different people.

This short form with 14 items has been widely used and translated into many languages, including French, Italian, Portuguese, Spanish, Polish, Dutch, Farsi, Turkish, Indonesian, Korean, Japanese and Chinese. If you want to know more, you can find the exact references in our latest publication in BMC Psychology, a free online journal [8]. The questionnaire is popular because, firstly, we make it available free of charge as long as there are no commercial interests involved and, secondly, because it is short and has relatively good properties.

In a series of studies, we have shown that the construct is suitable for understanding healing processes and better adaptation in chronically ill patients [9-12] – and we have also conducted a number of other interesting studies with it [13-20].

Now it seemed to me that it was time to calibrate the instrument using an approximate representative sample, i.e. to provide standard data from a normal population. For this purpose, we used the online panel of the company Debaro GmbH. Although online panels cannot provide a completely representative sample, it is possible to obtain a sample that resembles the average German population in terms of the most important characteristics by trimming data sets. To accomplish this, more data sets than necessary are simply drawn and only those that fit the profile of the 'average German' in terms of gender, age distribution, income and educational level are used.

In this way, we recruited a sample of 1,012 participants who completed the questionnaire. After a new analysis, we have now published a slightly modified version (FFA/FMI-13R), a questionnaire with 13 questions, in which one of the previous items was dropped because it was negatively worded and therefore produced psychometric outliers. As in other studies, we found that the instrument is very consistent (omega = .88)[21, 22], i.e. the answers to the individual questions are highly associated with the overall construct. The correlation between the items, the so-called item intercorrelation with r = .36, was, on the other hand, where we wanted it to be: in the middle range.

This means that each item captures a slightly different aspect, but measures consistently with all other items.

We also replicated our earlier findings that the construct is one-dimensional, but can be broken down into two highly correlated sub-dimensions for research purposes: presence and acceptance. In our publication, we report confirmatory factor analyses, i.e. various structural equation models that test different assignments of items to factors. For example, to only one factor, to two separate factors, to two correlated factors – the latter model is clearly the best from a statistical perspective.

In earlier studies, we saw that presence apparently develops first when people begin to meditate, and acceptance grows afterwards. The latter is apparently responsible for the fact that people with chronic illnesses or depression, for example, are better able to cope with their stress. In contrast, especially at the beginning of training, growing presence often leads to symptomatic exacerbations. This is because course participants often only then begin to realise what is going on with them, how severe their symptoms are or how heavy their workload is.

As in previous studies, we were also able to show that a higher mindfulness score is

significantly negatively associated with a measure of depression and anxiety (the PHQ-4 – Patient Health Questionnaire with 4 items [23]): Those with higher mindfulness scores tend to be less anxious and depressed. In a moderator analysis, we were also able to show that our previous findings are replicable: the negative correlation between mindfulness and depression was mainly mediated by acceptance, not presence.

In a regression analysis, we attempted to clarify which factors contribute to a higher or lower mindfulness score. In a significant regression equation that explains 6% of the variation, we see that the following factors are positively associated with mindfulness: older age, higher education, regular practice (of mindfulness, yoga, tai chi, chi gong), years of practice and knowledge of theory. It was surprising to find that Jewish religion and daily practice are negatively associated with mindfulness. We have seen the latter finding more often: the more experienced practitioners are, the lower they rate their own mindfulness, or the more strictly they evaluate themselves. This is because they know from experience that their everyday practice lags far behind the ideal. It is difficult to say why Jewish religion is negatively associated. Perhaps it is because Jewish religion is more word-based and therefore the theories diverge, who knows.

The publication now contains standard data from a German population that is quasi-representative. Researchers or clinicians can use this data to classify the values they have obtained with this instrument.

We are making it available free of charge for research and teaching purposes and welcome the exchange of experiences. This is the German version:

FMI 13R_EnglishDownload

One more self-critical word to conclude: Does it even make sense to use questionnaires to measure such complex constructs as mindfulness? Can't anyone who has read a self-help book on mindfulness cheat because they know what to tick to get a higher score? Don't the paradoxical effects, whereby people who practise daily have lower scores than occasional meditators, show that something is amiss here?

The short answer is: yes and no.

Questionnaires are fallible instruments. Complex constructs such as mindfulness would probably ideally have to be measured in ways other than self-reports. Classical Buddhist and Zen literature is full of stories in which teachers assess a student's level of development not by asking where he or she stands, but by observing concrete behaviour: how someone solves a specific task, for example. How they move, how they react to a challenging situation. Because concrete behaviour, especially in difficult or challenging situations, says more than a thousand words. In this respect, a purely behaviour- or observation-based assessment

would probably be more valid. But it would also be much more time-consuming. And because behaviour- and observation-based measurements are complex, they are only used as tests when there is no other option, for example when assessing intelligence, memory, cognitive performance, etc. In such cases, one would not ask, 'How intelligent are you?' or 'How good is your memory?', but would test it specifically.

But for constructs that are accessible to self-observation – cheerfulness, depression, anxiety, personality traits or even mindfulness – self-reporting can take you a long way, especially with little effort. Of course, you always have to be aware of possible sources of error: yes, people can cheat. They can deliberately tick the wrong boxes. They can say stupid things out of frustration. But normally, if you are friendly to them, ask them nicely, and if they are cooperative and know that their answers will be treated confidentially and will not have any negative consequences for their further treatment, they will provide truthful information. And that is what questionnaires are for, including our mindfulness questionnaire.

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