



Testing the incremental validity of dispositional mindfulness over and above the Big Five in accounting for mental health: A facet-level structural-equation modeling and predictor communality and dominance approach

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ABSTRACT

Dispositional mindfulness (i.e., its trait-like and universal component) and the Big Five personality dimensions empirically overlap on both the aggregate and facet levels. This overlap is strongest for neuroticism and conscientiousness, two major correlates of mental health. Associations of dispositional mindfulness with mental health could thus be due to underlying personality configurations. We investigated the latent structure and the incremental validity of dispositional mindfulness and the Big Five in accounting for mental health (perceived stress, anxiety, depression) in a community sample of $N = 430$ adults. Facets of dispositional mindfulness and the Big Five (using aggregate-level measures for openness, extraversion, and agreeableness) shared a common latent structure, which successfully recovered the Big Five. The incremental validity of mindfulness facets for mental health was small and negligible, only increasing in analyses of manifest (vs. latent) scores and when using aggregate (vs. facet-level) measures of neuroticism and conscientiousness. Predictor commonality and dominance analyses corroborated that the concurrent validity of dispositional mindfulness for mental health largely is qualified by personality dimensions. Emphasized are definitional overlaps of personality and dispositional mindfulness, and present-moment awareness as a possibly unique feature of dispositional mindfulness.

1. Introduction

Against the backdrop of an ever-increasing interest in mindfulness, researchers have called for a theoretical and empirical re-examination of the construct (e.g., Van Dam et al., 2018). Mindfulness has been noted to be hard to define (Chiesa, 2013). Currently, it is frequently defined as the purposeful and non-judgmental present-moment awareness (Kabat-Zinn, 2013), but, as of yet, no consensus definitions exist (Rau & Williams, 2016; Van Dam et al., 2018). Whereas mindfulness can be increased through mindfulness trainings and treatments (cultivated mindfulness), it is dispositional mindfulness (its trait-like, relatively stable, and universal component, considered as being distinct from cultivated mindfulness; Rau & Williams, 2016), which is of particular interest for personality research. Empirically, dispositional mindfulness overlaps with well-established constructs within the personality domain, such as trait affect and the Big Five (see meta-analyses of Giluk, 2009; Hanley & Garland, 2017; Rau & Williams, 2016). For the Big Five traits, associations are large ($r \approx -0.50$) and negative with neuroticism, medium-sized (≈ 0.30) with conscientiousness, and small-to-medium (≈ 0.10 – 0.20) with openness, extraversion, and

agreeableness.

One of the most comprehensive and widely used mindfulness scales is the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer & Toney, 2006). Building on five earlier scales, it purports five facets (Observe: attention to internal and external experiences; Describe: labeling of internal experiences; Acting with Awareness [Actaware]: being oriented to the present moment during activities; Nonjudging of Inner Experience [Nonjudge]: refraining from evaluating cognitive or emotional events; Nonreacting to Inner Experience [Nonreact]: refraining from [immediately] acting on aversive inner thoughts and feelings), which allow for fine-grained investigations into dispositional mindfulness.

Facet-level associations are largest for neuroticism with Nonjudge (≈ -0.50), Nonreact and Actaware (≈ -0.40); for conscientiousness with Actaware (≈ 0.50); for openness with Observe (≈ 0.40); and for extraversion with Describe (≈ 0.30); whereas agreeableness is commensurably modestly (≈ 0.15) associated with all facets (Hanley & Garland, 2017). On the latent level, personality thus accounts for more than 40% of variance in mindfulness facets (Siegling & Petrides, 2014). Spinhoven, Huijbers, Zheng, Ormel and Speckens (2017) reported

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among currently remitted depressed patients a common latent structure of mindfulness and personality facets (as assessed with the NEO-PI-R), which broadly recovered the Big Five. Therein, Actaware, Nonjudge, and Nonreactivity loaded on the same factor, as did most of the neuroticism facets; and, in similar vein, Observe and Describe loaded on the same factor, as did most of the openness facets.

While these associations have generally been taken as pointing to the utility of personality assessments for boosting clinical outcomes through tailored mindfulness interventions (Hanley & Garland, 2017), or that mindfulness might be a protective factor in the nexus of neuroticism and depression (Spinoven et al., 2017), they also highlight inherent problems of construct validity of dispositional mindfulness. Associations of mental health with dispositional mindfulness (Baer et al., 2006; Brown & Ryan, 2003) might not be uniquely attributable to dispositional mindfulness proper, but possibly be rather due to simultaneous associations with neuroticism and conscientiousness (two major correlates of mental health; Kotov, Gamez, Schmidt & Watson, 2010; Malouff, Thorsteinsson & Schutte, 2005).

Currently, empirical studies on the incremental validity of dispositional mindfulness in accounting for mental health vis-à-vis the Big Five factors and their facets are lacking. Wenzel, von Versen, Hirschmüller and Kubiak (2015), and (on the facet level) Iani, Lauriola, Cafaro and Didonna (2017) reported mediating effects of mindfulness on the relationship between neuroticism and well-being. None of these two accounts did further examine the underlying incremental validity. Grevenstein, Aguilar-Raab and Bluemke (2018) examined the incremental validity of mindfulness for quality of life outcomes, but not on the facet level.

The present study set out to investigate the unique contribution (i.e., incremental validity) of FFMQ-assessed mindfulness facets in accounting for mental health (perceived stress, anxiety, depression) in a community sample, while controlling for the Big Five. Fig. 1 provides a

graphical representation of the underlying conceptual model and the analysis plan.

Drawing on structural equation modeling (SEM) methods, we explored the common latent space of personality and dispositional mindfulness and conducted hierarchical regression analyses with factor scores as well as manifest scores. We contrasted facet scores of neuroticism and conscientiousness (the most salient correlates of dispositional mindfulness) with short aggregate-level measures of these constructs, and examined differences due to measurement and analytic approaches (latent vs. manifest level). To address the issue of multicollinearity in the regression analyses, we further utilized predictor commonality and dominance analyses (Nimon & Oswald, 2013).

This study thus contributes to a comprehensive and integrative examination of dispositional mindfulness vis-à-vis the Big Five within a multimodal framework (contrasting different self-report scales for the same constructs) and a multimethod framework as well (contrasting different analytic strategies).

2. Method

2.1. Participants and procedure

The analysis sample consisted of $N = 430$ German-speaking volunteers (73% women; age $M = 38.0$, $SD = 14.7$, range: 18–76 yr.). Most participants were Austrian (69%) or German (26%), and 5% from other (mostly Central European) countries. About 14% of participants had completed compulsory or vocational education, 37% upper secondary education, 49% some sort of tertiary education. Some regular (i.e., at least once a week) meditation practice was reported by 37%. This included various (mostly idiosyncratic) relaxation techniques and mindfulness meditation; the single most frequently reported practice was yoga (28%), followed by Zen (11%), and Qigong (8%). Meditation

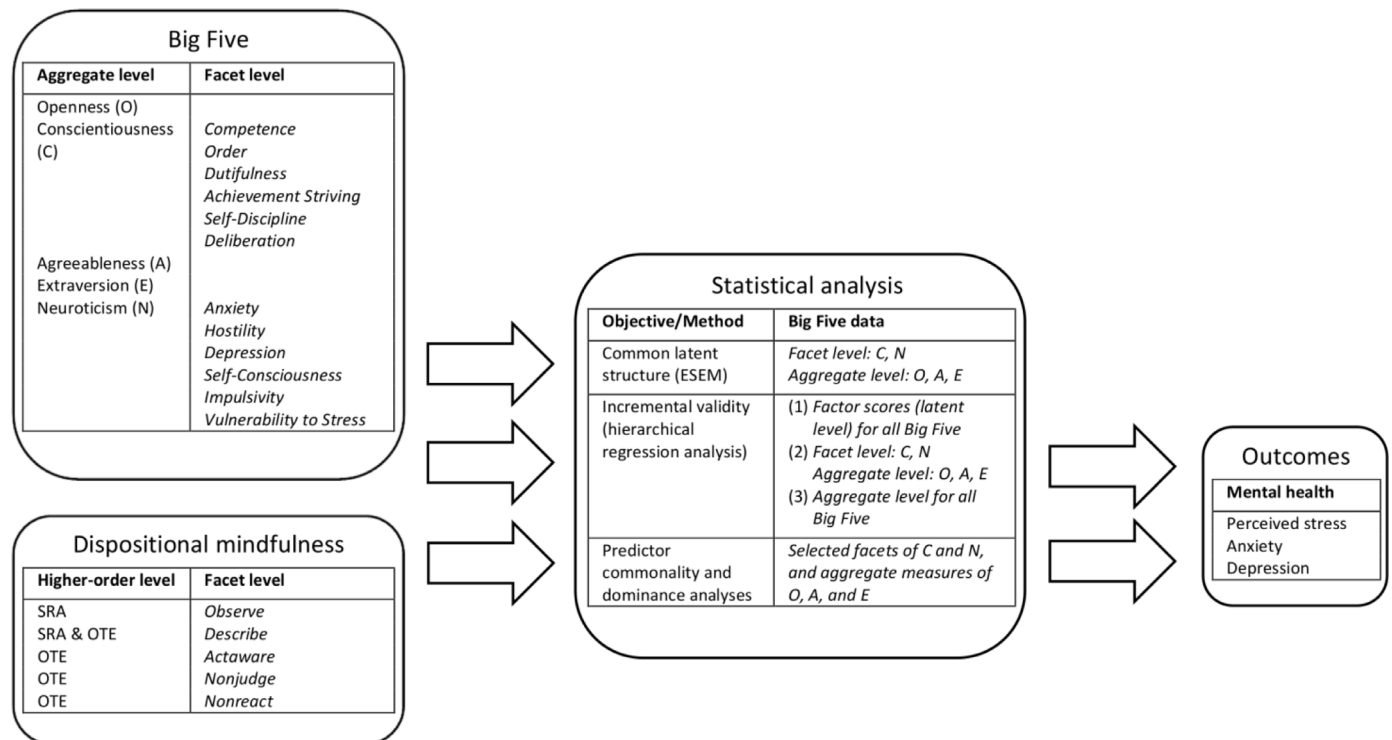


Fig. 1. Schematic representation of the underlying conceptual model and the analysis plan. Big Five aggregate and facet-level measures (for conscientiousness and neuroticism, which are major correlates of mental health and the two most salient correlates of dispositional mindfulness) were subjected to structural and validity analyses with the mindfulness facets, therein contrasting aggregate vs. facet-level, and latent vs. manifest, measures of the Big Five. For mindfulness, the mapping of facets onto two higher-order components of mindfulness (Bishop et al., 2004), as reported previously (Burzler et al., 2019), is also displayed in the diagram. The incremental validity of the Big Five and dispositional mindfulness was examined vis-à-vis three measures of mental health. SRA = Self-Regulated Attention, OTE = Orientation to Experience, ESEM = exploratory structural equation modeling.

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