RESEARCH PAPER



The Mindful Hedonist? Relationships between Well-Being Orientations, Mindfulness and Well-Being Experiences

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Abstract

Orientations to well-being, including personal values, motives and goals regarding one's well-being are often related to the experience of well-being. At the same time, studies show positive effects of mindfulness on well-being. It is conceivable, that the strength of the connection between well-being orientations and experiences depend on the degree of dispositional mindfulness. To explore relationships between orientations and experiences of wellbeing as well as the potential moderation effect of mindfulness, two cross-sectional online studies with German-speaking participants were conducted. In Study 1 (N=414) mindfulness moderated the relationship between life of pleasure (measured by the Orientations to Happiness Scale) and life satisfaction ($\beta = -0.10$, p = 0.017) as well as the relationship between life of meaning ($\beta = -0.10$, p=0.028). As hypothesized, mindfulness moderated the connection between life of engagement and life satisfaction ($\beta = -0.14$, p=0.001) as well as the negative relationship between search for meaning and life satisfaction ($\beta = 0.15$, p < 0.001). In Study 2 (N=731) none of those effects were statistically replicated. Yet, mindfulness moderated the relationship between hedonia (measured by the Hedonic and Eudaimonic Motives for Action Questionnaire) and life satisfaction ($\beta = -0.07$, p = 0.048) as well as the relationship between search for meaning and psychological well-being $(\beta = 0.07, p = 0.015)$. Overall, the results show that mindfulness has no substantial moderating effect on the well-being orientations and experiences relationship. Yet, in both studies, mindfulness and well-being orientations were consistently related to well-being experiences. This points out, that both are related to the experience of well-being, but beyond that not as interacting factors.

Keywords Mindfulness \cdot Well-being \cdot Life satisfaction \cdot Meaning in life \cdot Orientations to happiness

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1 Introduction

Mindfulness has not only been of interest in clinical psychology but also benefits of dispositional mindfulness and mindfulness based interventions for personal well-being have been found in non-clinical contexts with empirical research (Bajaj and Pande 2016; Wenzel et al. 2015). The positive impact of mindfulness on well-being includes both hedonic as well as eudaimonic aspects of well-being (Brown and Ryan 2003). The hedonic approach to well-being refers to striving and experiencing positive emotions such as pleasure and enjoyment as well as the avoidance of negative affect (Diener 2009). In contrast, the eudaimonic approach includes aspects of purpose in life, feelings of connectedness, personal growth as well as contributions to society or a higher goal (Ryff and Keyes 1995).

Conceptual categories for the analysis of well-being approaches are orientations and experiences of well-being (Huta and Waterman 2014). While orientations towards well-being include values, motives and goals, experiences of well-being comprise emotions and cognitive appraisals, such as satisfaction with life. Empirical evidence suggests that the active pursuit of well-being is empirically associated with the experience of well-being (Huta 2016a; Krasko et al. 2021; Ruch et al. 2010). In this regard, one question is how the relationship between striving and the experience may be influenced by other psychological factors. Mindfulness is related to a range of mechanisms that lead to higher well-being experiences (Hölzel et al. 2011). Therefore, we assume that the strength of the relationship between orientations and experiences of well-being does vary by the degree of mindfulness. Furthermore, the moderating role of mindfulness might differ in its direction, depending on the orientation.

2 Ways and Approaches to Well-Being

The question of human well-being is often discussed along two philosophical approaches, first eudaimonia, and second, hedonia (Deci and Ryan 2008). Peterson et al. (2005) suggested an integrative model that comprises three central orientations to happiness (OTH): the life of pleasure, the life of engagement and the life of meaning. The life of pleasure focusses on striving for pleasurable sensory experiences, positive emotions and enjoyable activities in general. The life of meaning seeks to experience for instance a higher purpose in life or to contribute to the well-being of others. The life of engagement strives for experiences of flow, particularly by being absorbed in activities as well as the usage and development of one's skills. Overall, the life of pleasure comprises a hedonic approach to well-being, while the life of meaning is a eudaimonic path. The life of engagement can be seen as a distinct approach, that covers some hedonic as well as eudaimonic elements. Based on the concept of flow (Csikszentmihalyi 2014), it is on one hand connected with positive emotions and on the other hand with intrinsic motivation and aspects of self-realisation. The three OTH are connected to life satisfaction, in respect of the degree to which people evaluate their life as satisfying (Park et al. 2009). The correlation between the OTH and life satisfaction has been confirmed in many studies and validated in various countries (Park et al. 2009; Vella-Brodrick et al. 2009). Overall, the life of engagement and the life of meaning were often more strongly correlated with life satisfaction as compared to the life of pleasure (Henderson et al. 2014; Peterson et al. 2007; Pollock et al. 2016).

However, there is some empirical evidence that the simultaneous pursuit of all three OTH explains an additional variance in satisfaction in life as well as in job satisfaction, even though these interactions are rather small (Martínez-Martí and Ruch 2017) and sometimes contradictory in their direction (Peterson et al. 2005; Schueller and Seligman 2010). In the first study we used the OTH as a theoretical framework and aimed to replicate the relationship between the orientations to happiness and life satisfaction [H1].

3 Mindfulness as a Moderator of the Relationship Between Well-Being Orientations and Experiences

The term mindfulness is often defined as a non-judgmental awareness, which emerges through purposeful attention that is anchored in the present moment (Kabat-Zinn 1990). Bishop (2004) identified two main elements of mindfulness. First, the self-regulation of attention, which includes the ability to sustain and switch the attentional focus. Second, the open and accepting stance, where all emerging experiences are perceived with an open and accepting attitude. The practise of the state mindfulness includes sitting meditation or body-orientated meditation types such as mindful walking. When regularly practised, this can lead to increased dispositional mindfulness (Kiken et al. 2015).

A general mechanism, of how mindfulness contributes to well-being is reperceiving, which is a shift of perspective that opens up the possibility to reappraise experiences in a constructive way (Shapiro et al. 2006). Other well-being enhancing effects are improved emotion regulation (Bajaj et al. 2018; Chambers et al. 2009), self-compassion (Neff and Dahm 2015) and the reduction of stress in general (Grossman et al. 2004). Initiated by these mechanisms, a positive upward spiral process is supported, that increases positive affect and constructive cognitions (Garland et al. 2015b).

Studies indicate that people high in mindfulness tend to be more aware of themselves, including body sensations, cognitions, emotions and more often apply strategies of selfcare to enhance their well-being (Hölzel et al. 2011; Richards et al. 2010; Tsur et al. 2016). Additionally, the clarification of one's values is seen as a central mechanism of mindfulness (Christie et al. 2017; Shapiro et al. 2006). A conscious implementation of orientations to well-being that are congruent with one's needs and goals might lead to a heightened experience of well-being, such as life satisfaction. Some studies also show that mindfulness can support the congruence between attitude and actual behaviour (Chatzisarantis and Hagger 2007; Ruffault et al. 2016).

Furthermore, a mindful awareness could change the quality of well-being related experiences. While performing an activity, mindfulness might help to adjust the experience in a way, that is congruent with one's orientations and optimizes the positive impact on one's well-being. On the other hand, mindfulness can be a barrier when it comes to extreme emotional or extraordinary mental states. A mindful state usually includes a conscious self-observing that mentally steps back from current experiences and takes the attitude of an observing witness. Extraordinary mental states that are conceivably central for well-being, such as peak experiences (Privette 1983), flow (Csikszentmihalyi 2014) or even psychedelic experiences (Griffiths et al. 2008) are probably less accessible and intense while being mindful (Desbordes et al. 2014; Sheldon et al. 2015). Overall it is conceivable that mindfulness has an effect on the experience of well-being and that this influence is different, depending on one's approach to strive for well-being.

3.1 Hedonic Orientation: Sensitization and Differentiation of Emotions Through Mindfulness

As stated above, a hedonic orientation or the life of pleasure consists of the pursuit and experience of positive affect on one side and the avoidance of negative affect on the other. Mechanisms of mindfulness that could be especially profitable for well-being in individuals with a hedonic orientation are first, emotion regulation competencies and second, a heightened enjoyment of experiences.

First, improved emotion regulation is considered as one of the key mechanisms of mindfulness, especially in clinical contexts (Garland et al. 2017; Hayes and Feldman 2004). There is evidence, that mindfulness is associated with greater differentiation of positive emotions and less with difficulties such as emotion dysregulation (Hill and Updegraff 2012). Emotional competencies, such as the ability to differentiate and regulate emotions are favourable in intentionally increasing positive emotions.

Second, being mindful can help to heighten the enjoyment of hedonic experiences. This applies for instance to the enjoyment of food, which is higher while being mindful (Arch et al. 2016; Hong et al. 2014) as well as for satisfying sexual activities in relationships (Khaddouma et al. 2015). In addition, there is evidence that mindfulness interacts positively with the ability to savour positive emotions in the present moment (Kiken et al. 2017). Based on this evidence, it is likely that mindfulness supports a successful striving for hedonic experiences, which is in turn related to higher life satisfaction. Therefore, we hypothesize that the relationship between a hedonic orientation and life satisfaction is stronger, the higher the level of mindfulness is [H2].

3.2 Eudaimonic Orientation: Mindfulness goes Along with Meaning in Life

An eudaimonic orientation or the life of meaning includes for example the striving for meaning in life and considering the needs of others when choosing activities (Peterson et al. 2005). An eudaimonic orientation is usually connected with experiences of life satisfaction and eudaimonic well-being (Huta 2016a; Ruch et al. 2010). Mindfulness-based interventions have been found to increase perceived purpose in life (Carmody et al. 2009; Jacobs et al. 2011). Decentering, a central mechanism of mindfulness, was identified as a mediator between mindfulness and experienced meaning in life (Pearson et al. 2015), indicating that the broadening awareness through mindfulness supports the construction and perception of meaning in life (Garland et al. 2015a). Other aspects, that are considered as elements of the life of meaning as well as the eudaimonic approach are pro-sociality, authenticity and personal growth (Peterson et al. 2005; Ryff and Singer 2008). As mentioned above, dispositional mindfulness was found to be empirically related to some of those elements, such as pro-social behavior, value-congruent behavior (Christie et al. 2017; Donald et al. 2019) and the experience of psychological well-being in general (Brown and Ryan 2003). To sum up, people who pursue eudaimonic well-being might experience higher well-being when their mindfulness is also high at the same time. Therefore, we hypothesize that the relationship between a eudaimonic orientation to well-being and the experience of life satisfaction is stronger, the higher the mindfulness is [H3].

Meaning in life is often differentiated between the search for and the presence of meaning (Steger et al. 2006). While the presence of meaning in life is positively related to wellbeing experiences, such as life satisfaction, most studies show, that the search for meaning in life is associated with a less perceived satisfaction and purpose in life (Steger 2018). In fact, there is evidence that the search for meaning is an expression of a lack of meaning experience (Steger et al. 2008). This could indicate, that people searching for meaning are likely to experience simultaneously a crisis of meaning (Schnell 2009). At this point, mind-fulness, which comprises the capability of a non-judging and accepting stance, could help to tone down any negative consequences in the search for meaning for one's well-being. Therefore, we propose that the negative relationship between the search for meaning and life satisfaction is less strong, the higher the mindfulness is [H4].

3.3 Flow Orientation: Incompatibility of Mindfulness and Being Absorbed

A orientation toward flow or the life of engagement is characterized by the striving for the experience of flow (Peterson et al. 2005). Flow can be defined as a state in which one is totally absorbed in an activity. The flow activity has an optimal ratio between challenge and personal resources, which leads to a high feeling of control during the activity. Also, flow activities are usually intrinsically motivated. Experiences that are connected with flow states are the loss of a sense of time, abandonment and a narrowed attention focus (Csik-szentmihalyi 2014). Also, during flow activities, positive emotions are not intentionally pursued, but often accompany flow (Rogatko 2009; Ullén et al. 2012).

Because mindfulness and flow states are both presence-centred, similarities and the potential of mindfulness to support flow are sometimes discussed (Reid 2011). However, studies show ambiguous results regarding the potential of mindfulness to support flow experiences. In the context of sports, self-reported dispositional mindfulness was found to be higher in elite athletes and was positively correlated with flow experiences (Cathcart et al. 2014). In an experimental examination of experiences while listening to music, people in the mindfulness condition described clearly different experiences compared to a flow condition (Diaz 2013). Strong evidence for the incompatibility of mindfulness and flow was found in a series of experimental studies by Sheldon et al. (2015). While flow goes along with a loss of self-awareness and being totally absorbed by an activity, mindfulness aims to continuously maintain self-awareness and observe everything in a non-elaborative way. The authors concluded, that the core flow aspect of absorption is not compatible with mindfulness (Sheldon et al. 2015).

On this basis it is likely that the striving for flow experiences in combination with a high dispositional mindfulness is not beneficial with regard to well-being. This combination could even be detrimental, due to the incomparability of mindfulness and flow experience. Therefore, we propose that mindfulness decreases the positive relationship between the life of engagement and the experience of life satisfaction [H5].

4 Method Study 1

4.1 Participants

Study participants were recruited via flyers in public places, online social networks and word-of-mouth advertising. 423 German-speaking participants fully completed the onlinequestionnaire, of these, six datasets were excluded due an unrealistic short time spent filling out the questionnaire (<400 s). Because gender was included as a dichotomous control variable in the analyses, three participants were excluded as they did not assign themselves as female or male. The final sample consisted of 414 cases. The mean age of the participants was 39 (SD=13). The majority were female (83%). The standard of education was high (37% university degree; 32% higher education entrance qualification), and most of the participants worked in a full-time (36%) or part-time occupation (25%). About one-fifth of the participants were undergraduate students (17%) and a majority (42%) lived in cities. A minority lived in other German-speaking countries than Germany (7%). 136 (33%) participants reported no meditation experience at all, 201 (48%) reported meditation experience, but no regular practice, and 77 (19%) reported regular meditation practice at least once a week. Further characteristics of the sample are summarized in the supplementary materials (Table A).

4.2 Measures

4.2.1 Orientations to Happiness (OTH)

The OTH-scale comprises 18 items with six of each for the three dimensions: the life of pleasure ("I love to do things that excite my senses."), the life of engagement ("In choosing what to do, I always take into account whether I can lose myself in it."), and the life of meaning ("I have a responsibility to make the world a better place"). Each item was rated on a 5-point Likert scale (from 1 "strongly disagree" to 5 "fully agree"). The validity of the OTH-scale was tested in a range of studies (Ruch et al. 2010).

4.2.2 Satisfaction with Life Scale (SWLS)

The SWLS consists of five items pertaining to general satisfaction in life (example: "I am satisfied with my life"). Statements are rated on a 7-point scale (1 "strongly disagree" to 7 "fully agree") (Diener et al. 1985). The German version was validated by Glaesmer et al. (2011).

4.2.3 Comprehensive Inventory of Mindfulness Experiences (CHIME)

The CHIME assesses mindfulness with 37 items that comprise eight dimensions and was developed for people with and without meditation experience (Bergomi et al. 2014, 2015). The subscales are: awareness toward inner experiences, awareness toward external experiences, acting with awareness, openness to experiences, accepting and non-judgemental orientation, decentering/nonreacting, insightful understanding and relativity of thoughts. The items are rated on a 6-point Likert scale (1 "almost never" to 6 "almost always").

4.2.4 Search for Meaning

The subscale search for meaning of the Meaning in Life Questionnaire (MLQ) was used to assess the degree of the engagement in the search for meaning in life. It consists of 5 Items (example: "I am searching for meaning in my life") which are rated on a 7-point Likert scale (1 "strongly disagree" to 7 "fully agree") (Steger et al. 2006).

4.3 Data Analysis

The internal consistencies of the scales were tested through the estimation of Cronbach's- α . For mindfulness a confirmatory factor analysis (CFA) was conducted. In a second step, a bifactorial CFA was done, in order to test the relationship of the items with a general mindfulness factor. The model fit was evaluated using the Comparative Fit Index (CFI), the Tucker–Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), and the Standardized Root Mean Square Residual (SRMR). A CFI and TLI close to 0.95, a RMSEA of close to 0.06, and a SRMR close to 0.08 indicate a good fit (Hu and Bentler 1999). The test of chi square should preferably be not significant, but has limited validity as it is sensitive to large sample sizes. To deal with non-normality, in the test statistic the Sattora–Bentler correction was applied (Satorra and Bentler 1994). Further, McDonald's omega for the total scale (ω_{total}) and omega hierarchical (ω_{H}) for the general mindfulness factor were calculated to estimate the internal consistency of mindfulness. For both omega values, 0.50 can be considered as a minimum and 0.75 as good (Reise et al. 2013).

Hierarchical regression analyses were used to test the proposed relationships between the three orientations and life satisfaction. In Step One, the control variables gender and age were included. In Step Two, the three orientations to happiness were added [H1]. In Step Three, mindfulness was included as a predictor and in Step Four, the proposed moderation effects of mindfulness were each tested separately through the inclusion of interaction terms [H2–H5]. All predictors with the exception of gender were mean-centred previously.

5 Results Study 1

The scales showed acceptable internal consistence with Cronbach's- α ranging from 0.74 to 0.91, with exception of the scale life of engagement, which had a substantial lower internal consistency of α =0.62. The CFA with eight mindfulness factors showed insufficient fit indices on the CFI and TLI, whereas the other indices were in an acceptable range (χ^2 (601)=1279.053, p<0.001, CFI=0.87, TLI=0.86, RMSEA [90%CI]=0.057 [0.053, 0.061], SRMR=0.076). The bifactorial CFA showed a slightly poorer fit (χ^2 (592)=1320.784, p<0.001, CFI=0.86, TLI=0.85, RMSEA [90%CI]=0.059 [0.055, 0.064], SRMR=0.081). The $\omega_{\rm H}$ of 0.81 indicated that a high proportion of the variance of the eight factors could be attributed to a general mindfulness factor. In the bifactor model, nearly all items were significantly positive related to the general mindfulness factor with the exception of one item in the insight subdimension. Furthermore, the $\omega_{\rm total}$ of 0.93 indicated a good reliability of the scale. As the present study focuses on the global score of mindfulness, we refrained from modifying the 8-factor model in order to improve the model fit. Descriptive statistics and intercorrelations of all measures can be found in the supplementary materials (Table B).

The regression analysis showed positive weights for the life of pleasure (β =0.17, p=0.001) and life of engagement (β =0.19, p<0.001) as predictors of life satisfaction. The life of meaning was no significant predictor of life satisfaction (β =0.04, p=0.420) and showed only a small bivariate correlation with life satisfaction (r=0.17, p<0.001). The analyses of the interaction terms, revealed a small significant moderation effect of mindfulness of the relationship of the life of pleasure and life satisfaction (β =-0.10, p=0.017), as well as on the relationship between the life of meaning and life satisfaction (β =-0.10, p=0.017).

p=0.028), and between the life of engagement and life satisfaction (β =-0.14, p=0.001). In addition, a small moderation effect of mindfulness (β =0.15, p<0.001) on the negative relationship between the search for meaning and life satisfaction occurred. The regressions are summarized in Table 1 and the slopes of the regressions on different mindfulness levels are illustrated in Fig. 1.

		Study 1		Study 2		
		Life satisfac	ction	Life satisfaction		
		В	ΔR^2	β	ΔR^2	
	Step 1		0.02*		0.01*	
	Gender ^a	-0.12*		-0.06		
	Age	0.01		0.11*		
[H1]	Step 2		0.10**		0.11**	
	Life of pleasure (OTH)	0.17**		0.15**		
	Life of meaning (OTH)	0.04		0.12*		
	Life of engagement (OTH)	0.19**		0.19**		
	Step 3		0.13**		0.11**	
	Mindfulness	0.39**		0.38**		
	Step 4a		0.01*		0.00	
[H2]	Life of pleasure (OTH) * Mindfulness	-0.10*		-0.03		
	Step 4b		0.01*		0.00	
[H3]	Life of meaning (OTH)*Mindfulness	-0.10*		-0.05		
	Step 4c		0.02**		0.00	
[H5]	Life of engagement (OTH)*Mindfulness	-0.14*		-0.03		
	Step 1		0.02*		0.01*	
	Gender	-0.12*		-0.06		
	Age	0.01		0.11*		
	Step 2		0.09**		0.16**	
	Search for meaning	-0.31**		-0.41**		
	Step 3		0.14**		0.12**	
	Mindfulness	0.40**		0.37**		
	Step 4		0.02**		0.00	
[H4]	Search for meaning * Mindfulness	0.15**		0.06		

 Table 1
 Hierarchical regressions with orientations to happiness and search for meaning as predictors of life satisfaction

Beta values. Steps 4a–4c were each added separately following steps 1–3 and therefore they are non-consecutive. Study 1: N=414. Study 2: N=721 for OTH-models (steps 1–4c), N=724 for search for meaning models (steps 1–4)

 ΔR^2 = Change in R² compared to previous step

^aFemale = 0, male = 1

*p<0.05. **p<0.01

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Fig. 1 Mindfulness as moderator: scatterplots with conditional regression lines (Study 1)

6 Discussion Study 1

6.1 OTH as Predictors of Life Satisfaction

Two of the three proposed orientations to happiness, the life of pleasure and the life of engagement were significant predictors of life satisfaction. The life of meaning showed only a small bivariate correlation with life satisfaction, which is not consistent with the proposed model by Peterson et al. (2005) and our hypothesis [H1].

6.2 Mindfulness as a Moderator of the Relationship between OTH and Life Satisfaction

A moderation effect of mindfulness on the relationship of the life of pleasure and life satisfaction was found in an unexpected direction. The identified effect indicated that a combination of a hedonic orientation with a high dispositional mindfulness went along with lower life satisfaction. Therefore, our hypothesis, that mindfulness combined with a hedonic orientation is connected with higher life satisfaction, could not be supported [H2]. Furthermore, a moderation effect of mindfulness on the relationship between the life of meaning and life satisfaction occured. The results indicate, that the higher mindfulness is, the weaker the positive connection between a eudaimonic orientation and life satisfaction is. Therefore, the hypothesis that high mindfulness combined with the life of meaning is connected to higher life satisfaction can not be supported [H3]. Because this result is unexpected and no post-hoc explanations seem satisfactory, we refrain from discussing this result at this point. As expected, people involved in a high search for meaning report

less life satisfaction. A small moderation effect of mindfulness was found, supporting the hypothesis that the relationship between the search for meaning and life satisfaction is less strong, the higher the dispositional mindfulness is [H4]. As proposed, a moderation effect of mindfulness on the relation between the life of engagement and life satisfaction was found [H5]. Even though the effect was rather small, this result may indicate the incomparability of trait mindfulness and the striving for frequent flow experiences in order to reach higher life satisfaction at the same time.

Some limitations of the instruments used should be noted. While the OTH-approach claims to describe and capture the pursuit of well-being (Peterson et al. 2005), some items could also be interpreted as the experiences of well-being (e.g. "What I do matters to society" or "I am totally absorbed in what I am doing"). If aiming to analyse the orientation-experience relationship and mindfulness as a moderator, the further inclusion of more focussed instruments that assess orientations would heighten the validity of the results. Also, life satisfaction was used as an indicator of well-being experience, as it is suggested in the OTH-model. This approach has limitations, as the focus on life satisfaction constitutes a limited perspective on well-being. Life satisfaction is often assessed as a part of subjective well-being (Diener 2009), that is from a theoretical perspective seen as a hedonic indicator of well-being. Yet, empirical studies suggest that life satisfaction correlates with both, hedonic and eudaimonic concepts of well-being (Huta 2016b). Also in the research on the meaning in life, satisfaction in life is commonly used as a dependent variable (Steger 2018). Still, conceptually, life satisfaction does not explicitly cover eudaimonic experiences of well-being, such as psychological well-being (PWB) (Ryff and Singer 2008). The same applies for the experience of engagement, which is not covered by the assessment of life satisfaction. Therefore, the inclusion of further well-being experience measures would be purposeful.

We assessed mindfulness as a self-reported trait. Originally, mindfulness is practiced in the form of mind- and body-oriented meditations and dispositional mindfulness is often, though not always, heightened through this practice (Visted et al. 2015). Still, it is likely that the practice of mindfulness is qualitatively different from self-reported dispositional mindfulness, especially when reported by non-meditators or meditation-naïve persons. Therefore, with respect to the variables examined in the present study, some differences between regular meditators and non-meditators are possible. A view on differences of mindfulness and well-being orientations in these groups might also give a more complete picture and extend the interpretation of the present results.

7 Study 2

The second study aimed to statistically replicate the results of Study 1 and therefore included the same instruments. Additional measures for well-being orientations and experiences were included, in order to limit some of the limitations of Study 1 and to conceptually replicate the results. For this purpose, existing measures that assess orientations (specifically motives, values or striving for well-being) as well as instruments assessing experiences of well-being were added as complementary measures.

The Hedonic and Eudaimonic Motives for Activities Questionnaire (HEMA) assesses motives to engage in activities that are either driven by a hedonic or eudaimonic approach to well-being (Huta and Ryan 2010). Similar to the OTH-questionnaire, the HEMA focuses on the pursuit of well-being through the eudaimonic and hedonic approaches. In contrast to the OTH-questionnaire, which captures orientations in a broader sense, the HEMAquestionnaire consequently asks only for motives for engaging in activities. In addition, the OTH-model suggests life satisfaction as an outcome variable, while the HEMA-model often includes other and more specific well-being measures, such as PWB (Huta 2016a). In Study 2, we used the HEMA as a complementary instrument to assess hedonic and eudaimonic well-being orientations with a specific focus on general motives when engaging in activities. Additionally, in order to assess well-being experiences more extensive, positive and negative affect as measures of hedonic experiences were included. Further, psychological well-being (PWB) (Ryff and Keyes 1995) was added as an indicator of eudaimonic experience. PWB comprises for example aspects of feeling purpose in life and personal growth.

To conceptually replicate the interactions between the life of engagement and mindfulness, in Study 2 we aimed to include the aspect of engagement orientation and experience in a more differentiated way. In general, the life of engagement in the OTH-model is inspired by the concept of flow by Csikszentmihalyi (2014). As an alternative measure to the life of engagement of the OTH-questionnaire, we used a modified version of the flow short scale (FSS) (Rheinberg et al. 2003). It asks for the importance of flow aspects for every-day activities such as automated progress and absorption. The subdimension of engagement of the comprehensive inventory of thriving (CIT) (Su et al. 2014) was added as a measure for the general experience of feeling engagement in life. Figure 2 summarizes the psychological constructs of Study 2 and the proposed relationships. These are organised by the primary theoretical approach (hedonic, eudaimonic) and their level of observation (orientation or experience). As in Study 1, we assumed mindfulness to function as a moderator of the proposed orientation–experience relationships and we tested those relationship using hierarchical regression analyses. To sum up, in addition to the hypotheses of Study 1, the following hypotheses were proposed in Study 2:



Fig. 2 Theoretical framework and hypothesized relationships of Study 2. *Note*. ^aConstruct and relationship was already included and tested in Study 1. The arrows indicate the proposed relationships; dashes indicate that a negative relationship was hypothesized

- [H6]: The orientations to well-being (hedonia, eudaimonia, flow orientation) are significant predictors of the theoretical corresponding well-being experiences (hedonia predicts positive/ negative affect/ life satisfaction; eudaimonia predicts PWB; flow orientation predicts engagement).
- [H7]: Mindfulness moderates the relationship between hedonia (HEMA) and life satisfaction positively.
- [H8]: Mindfulness moderates the relationship between hedonia (HEMA) and hedonic experiences (positive and negative affect) positively.
- [H9]: Mindfulness moderates the relationship between eudaimonia (HEMA) and the experience of PWB positively.
- [H10]: Mindfulness moderates the relationship between the search for meaning and PWB positively.
- [H11]: Mindfulness moderates the relationship between and between flow orientation and engagement negatively.

To provide additional information regarding the samples of the studies and uncover potential alternative interpretations of unexpected results, we conducted an exploratory analysis of mean differences between regular meditators, meditation-experienced and meditation-naïve participants in both samples. Regular meditators were participants, who indicated that they meditate regularly at least once a week. This meditation practice included "classic" meditation (e.g. Vipassana, Zen) as well as predominantly body-orientated meditation forms (e.g. Yoga, Tai Chi). Meditation-experienced participants indicated previous experiences with meditation, but no regular practise and meditation-naïve participants stated that they had no experience with any meditation form at all. Overall, it can be expected, that regular meditators would show higher dispositional mindfulness (Bergomi et al. 2015).

8 Method Study 2

8.1 Participants

An a-priori power analysis using G*Power (Faul et al. 2007) suggested a required sample size of 717 participants to reveal small effects in regression analysis with seven predictors $(f^2 = 0.02, \alpha = 5\%, 1 - \beta = 0.80)$. The invitation to participate in a study on mindfulness and well-being was advertised via postings and e-mail distributors in online social networks for a period of four weeks. As an incentive, the participation in a lottery with fifteen $\notin 10.00$ and thirty €5.00 shopping vouchers, as prizes, was offered to those who completed the survey. 783 German-speaking participants fully completed the questionnaire, with 45 participants failing to pass the two quality check items and were therefore excluded from the analysis. Seven further participants had to be excluded because they did not assign themselves as female or male and gender was included as a dichotomous control variable. The final sample consisted of 731 participants. The mean age was 37 (SD = 12.30) and the majority were female (84%), living in cities (49%), highly educated (43% university degree, 40% higher education entrance qualification) with a full-time (34%) or part-time (20%) occupation. A minority were undergraduate students (24%). A few participants lived in other German-speaking countries than Germany (3%). 183 (25%) participants reported no meditation experience, 396 (54%) reported meditation experience but no regular practise, 152 (21%) reported regular meditation practise at least once a week. Further sample characteristics and a list of the addressed online networks are summarized in the supplementary materials (Table A, Table C).

8.2 Measures

8.2.1 Hedonic and Eudaimonic Motives for Activities (HEMA-R)

The HEMA-R (Huta and Ryan 2010) consists of ten items to assess ways of pursuing wellbeing on a dispositional level. It differentiates between hedonic and eudaimonic orientation, asking on a 7-point Likert (1 "not at all" to 7 "very much") scale to what degree different qualities are typically approached during activities (e.g. hedonic orientation: "Seeking enjoyment?"; eudaimonic orientation: "Seeking to contribute to others or the surrounding world?"). The German version of the HEMA-R was validated by Bujacz et al. (2016).

8.2.2 Flow Orientation

The Orientation toward flow activities was assessed by a modified flow short scale (FFS) (Rheinberg et al. 2003). Originally, the FFS initially measures the state of flow by questioning current experiences (e.g. "I am totally absorbed in what I am doing"). For the purpose of our study, a different instruction question ("In general, how important are the following states for you while performing different activities?") was added and the wording of the items was adjusted (e.g. "To be totally absorbed in what I am doing"). The scale comprises ten items that are rated on a 7-point Likert scale (from 1 "totally unimportant").

8.2.3 Scale of Positive and Negative Experience (SPANE)

Affect was measured using the SPANE (Diener et al. 2009). It covers different positive and negative feelings (e.g. "happy" or "sad"). Participants were asked to think about their activities during the last four weeks and how often they felt the presented affects. The scale consists of twelve affective states that are rated on a 5-point Likert scale (1 "very rare or never" to 5 "very often or always").

8.2.4 Psychological Well-Being (PWB)

PWB was assessed by a short 18-item version of the psychological well-being scale (RPWB) (Ryff and Keyes 1995). The scale includes six dimensions: autonomy (e.g. "I judge myself by what I think is important, not by the values of what others think is important."), environmental mastery (e.g. "In general, I feel I am in charge of the situation in which I live."), personal growth (e.g. "For me, life has been a continuous process of learning, changing, and growth."), positive relations with others (e.g. "People would describe me as a giving person, willing to share my time with others"), purpose in life (e.g. "Some people wander aimlessly through life, but I am not one of them") and self-acceptance (e.g. "I like most parts of my personality"). Answers are rated on a 7-point Likert scale (1 "strongly disagree" to 7 "strongly agree"). The German version has been validated by Risch et al. (2005).

8.2.5 Engagement

The subdimensions engagement (e.g. "I get fully absorbed in activities I do ") was measured with the comprehensive inventory of thriving (CIT) (Su et al. 2014). Each dimension comprises three items that are rated on a 5-point Likert scale (1 "strongly disagree" to 5 "strongly agree").

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Almost all scales showed acceptable to good internal consistencies (α =0.72–0.93). Once again, the life of engagement had a low consistency (α =0.57). In order to ensure comparability with Study 1, the scale was left as it is in the analyses. The eight-factor CFA (N=726) with mindfulness showed slightly better fit indices compared to the first study, but remained insufficient on the CFI and TLI (χ^2 (601)=1557.394, p<0.001, CFI=0.89, TLI=0.88, RMSEA [90%CI]=0.050 [0.047, 0.053], SRMR=0.063). The bifactor-model showed similar indices (χ^2 (592)=1586.371, p<0.001, CFI=0.89, TLI=0.88, RMSEA [90%CI]=0.055], SRMR=0.072). The ω_H was 0.78 and all items were significantly related to the general mindfulness factor with the exception of one item in the insight subdimension. The ω_{total} of 0.91 indicated a high reliability of the total scale. Descriptive data, reliability and intercorrelations of the scales can be found in the supplementary materials (Table D).

All three OTH showed significant small positive relationships to life satisfaction (see Table 1). The complementary operationalized orientations to well-being (hedonia, eudaimonia, flow orientation) showed all significant effects as predictors for the proposed corresponding well-being experiences ranging from small to medium effect sizes (see Tables 2, 3 and 4).

		Life satisfaction ^b		Positive a	affect ^c	Negative affect ^d	
		β	ΔR^2	β	ΔR^2	β	ΔR^2
	Step 1		0.01**		0.00		0.03**
	Gender ^a	0.11*		-0.04		-0.05	
	Age	-0.06		0.07		-0.15^{**}	
	Step 2		0.09**		0.17**		0.09**
[H6]	Hedonia (HEMA)	0.30**		0.42**		-0.31**	
	Step 3		0.13**		0.14**		0.17**
	Mindfulness	0.40**		0.42**		-0.46**	
	Step 4		0.01*		0.00		0.00
[H7, H8]	Hedonia (HEMA)*Mind- fulness	-0.07*		-0.05		0.00	

 Table 2
 Hierarchical regressions with Hedonia as the predictor of life satisfaction, positive affect and negative affect (Study 2)

 ΔR^2 = Change in R^2 compared to previous step

^aFemale = 0, male = 1, ${}^{b}N = 725$, ${}^{c}N = 726$, ${}^{d}N = 726$

*p<0.05. **p<0.01

Table 3 Hierarchical regressions with eudaimonia as the predictor of psychological well-being			Psychological well- being (RPWB) ^b		
(Study 2)			β	ΔR^2	
		Step 1		0.02**	
		Gender ^a	-0.09*		
		Age	0.12*		
		Step 2		0.15**	
	[H6]	Eudaimonia (HEMA)	0.39**		
		Step 3		0.24**	
		Mindfulness	0.52**		
		Step 4		0.00	
	[H9]	Eudaimonia (HEMA)*Mindfulness	-0.03		
		Step 1		02**	
		Gender	-0.09*		
		Age	0.12*		
		Step 2		0.13**	
		Search for meaning	-0.36**		
		Step 3		0.25**	
		Mindfulness	0.53**		
		Step 4		0.01*	
	[H10]	Search for Meaning * Mindfulness	0.07*		

 ΔR^2 = Change in R^2 compared to previous step

^aFemale = 0, male = 1, ${}^{b}N = 725$

*p<0.05. **p<0.01

Table 4 Hierarchical regressions with flow orientation as the			Engagement	(CIT) ^b	
predictor of engagement (Study 2)			β	ΔR^2	
_)		Step 1		0.02**	
		Gender ^a	-0.00		
		Age	0.14**		
		Step 2		0.03**	
	[H6]	Flow Orientation	0.18**		
		Step 3		0.20**	
		Mindfulness	0.46**		
		Step 4		0.00	
	[H11]	Flow Orienta- tion * Mindfulness	-0.01		

 ΔR^2 = Change in R^2 compared to previous step

 a Female = 0, male = 1, ${}^{b}N$ = 725

*p<0.05. **p<0.01



Fig. 3 Mindfulness as moderator: exemplary scatterplots with conditional regression lines (Study 2)

Variable	$\frac{\text{Meditation-}}{n=136}$		Meditation- experienced; currently no regular practise n=201		Regular meditators				
					n=77		N=414		
	М	SD	М	SD	М	SD	F (2, 411)	р	η^2
Mindfulness (CHIME)	3.86 ^a	0.55	3.95 ^a	0.60	4.30 ^b	0.70	13.94	< 0.001	0.06
Life of pleasure (OTH)	3.33 ^a	0.67	3.37 ^a	0.71	3.25 ^a	0.81	0.8	0.456	0.00
Life of meaning (OTH)	2.96 ^a	0.81	3.21 ^b	0.76	3.52 ^c	0.73	13.43	< 0.001	0.06
Life of engagement (OTH)	2.97 ^a	0.64	2.95 ^a	0.58	3.09 ^a	0.63	1.45	0.236	0.01
Search for meaning (MLQ)	3.95 ^a	1.64	3.91 ^a	1.60	3.99 ^a	1.79	0.07	0.937	0.00
Life satisfaction (SWLS)	4.57 ^a	1.52	4.57 ^a	1.32	4.94 ^a	1.35	2.20	0.112	0.01

Table 5 Mean differences between meditation groups (Study 1)

Mean with different superscripts differ at the p < 0.05 level by post-hoc analysis (Bonferroni), the grouping of participants was based on a categorical variable, "I have not yet had any experience with meditation and/ or meditative bodywork." (Meditation-naïve); "I have had experiences with meditation and/or meditative bodywork, but I do not practise regularly or less than once a week." (Meditation-experienced); "I regularly practise meditation and/or meditative bodywork (i.e. at least 1× per week)." (Regular Meditators)

The moderation analysis revealed a small negative moderation effect of mindfulness on the relationship between hedonia (HEMA) and life satisfaction ($\beta = -0.07$, p = 0.045) (see Table 2). In addition, mindfulness moderated the relationship between search for meaning and psychological well-being ($\beta = 0.07$, p = 0.014) (see Table 3). The moderation of mindfulness of the flow orientation and experience of engagement relationship was not significant (see Table 4). The slopes of the regressions on different mindfulness levels are illustrated in Fig. 3.

9.1 Explorative Analysis of Meditator and Non-Meditator-Groups

The analysis of mean differences of orientations and well-being experience results in both samples showed overall, that regular meditators were significantly higher in mindfulness, eudaimonic orientations (life of meaning, eudaimonia), positive affect, PWB, engagement

Variable	Medita- tion-naïve $n = 177$		Medita- tion-expe- rienced; currently no regular practise n=393		Regular meditators				
					n=148		N=718		
	М	SD	М	SD	М	SD	F (2, 715)	р	η^2
Mindfulness (CHIME)	3.78 ^a	0.52	3.87 ^a	0.58	4.23 ^b	0.56	29.81	< 0.001	0.08
Life of pleasure (OTH)	3.31 ^a	0.64	3.42 ^a	0.68	3.35 ^a	0.69	1.64	0.195	0.00
Life of meaning (OTH)	2.98 ^a	0.79	3.30 ^b	0.75	3.70 ^c	0.75	36.77	< 0.001	0.09
Life of engagement (OTH)	3.09 ^a	0.56	3.09 ^a	0.57	3.19 ^a	0.49	1.86	0.157	0.01
Search for meaning (MLQ)	3.48 ^a	1.66	3.72 ^a	1.66	3.73 ^a	1.72	1.38	0.252	0.01
Life Satisfaction (SWLS)	4.55 ^a	1.38	4.57 ^a	1.39	4.84 ^a	1.09	3.30 ^w	0.038 ^W	0.01
Hedonia (HEMA)	4.87 ^a	0.95	4.96 ^a	0.93	5.08 ^a	0.88	2.18	0.114	0.01
Eudaimonia (HEMA)	4.91 ^a	1.05	5.27 ^b	0.92	5.61 ^c	0.89	22.08	< 0.001	0.06
Flow orientation (mod. FSS)	4.94 ^a	0.78	5.11 ^b	0.81	5.02 ^{a,b}	0.79	3.18	0.042	0.01
Positive affect (SPANE)	3.52 ^a	0.79	3.54 ^a	0.81	3.81 ^b	0.67	9.28 ^w	$< 0.001^{W}$	0.02
Negative affect (SPANE)	2.65 ^a	0.74	2.67 ^a	0.81	2.44 ^b	0.81	4.48	0.012	0.01
Psychological well-being (RPWB)	4.42 ^a	0.61	4.49 ^a	0.61	4.65 ^b	0.53	6.62	0.001	0.02
Engagement (CIT)	3.56 ^a	0.69	3.51 ^a	0.78	3.76 ^b	0.64	6.35	0.002	0.02

 Table 6 Mean differences between meditation groups (Study 2)

Only cases that are complete on all variables were included. Means with different superscripts differ at the p < 0.05 level by post-hoc analysis (Bonferroni). ^WA significant Levene test indicated the violation of variance homogeneity; therefore, the F-value and significance of the welch test is reported, for post-hoc tests Games-Howell was applied. The grouping of participants was based on a categorical variable, "I have not yet had any experience with meditation and/or meditative bodywork." (Meditation-naïve); "I have had experiences with meditation and/or meditative bodywork, but I do not practise regularly or less than once a week." (Meditation-experienced); "I regularly practise meditation and/or meditative bodywork (i.e. at least 1× per week)." (Regular Meditators)

experience and lower on negative affect compared to meditation-naïve or meditation-experienced participants (see Tables 5 and 6).

10 Discussion Study 2

10.1 Orientations as Predictors of Well-Being Experiences

All three orientations to happiness, including the life of meaning, predicted life satisfaction, confirmed the model suggested by Peterson et al. (2005). The complementary operationalized orientations were all significant and medium strong predictors of the theoretically related well-being experiences in the proposed way [H6]. Overall, these relationships appeared to be stronger than the relationships between the OTH and life satisfaction in both studies. The overall medium strong relations point to the close conceptual connection of the used instruments. Only flow orientation as a predictor of engagement experience showed a comparatively low regression weight and a low explained variance in engagement. This might be due to the use of the modified flow short scale, that was originally designed to assess the state of flow, instead of an orientation. In addition to the potential lack of content validity of this instrument, it is an open question as to if and how an orientation toward

10.2 Mindfulness as a Moderator of the Orientation-Experience Relationship

flow activities leads to the general experience of engagement.

In general, none of the moderation effects of Study 1 were statistically replicated on the basis of Study 2 [H2–5]. Yet, a small negative moderation of mindfulness occurred in combination with the hedonic orientation, as measured by the HEMA, and life satisfaction [H7]. This constitutes a conceptual similarity to Study 1 and may indicate, that people with a hedonic orientation are less satisfied with their life, the higher their mindfulness is. But as the effect is negligible in its strength, we refrain from further discussion of this result. The same applies for the proposed moderation of mindfulness of the negative relationship between search for meaning and psychological well-being, which was significant, but showed a very small effect size. This result is conceptually similar to the found moderation effect of mindfulness in Study 1 with regard to life satisfaction and may point out that mindfulness might buffer the negative consequences for one's well-being while being engaged in a search for meaning [H10]. However, as this effect is very small and should not be overrated, we do not discuss this result further. The hypotheses H7, H8, H9 and H11 of Study 2 could not be confirmed.

11 General Discussion

Our studies investigated connections between mindfulness, orientations and experiences of well-being with the focus on the potential moderation effects of mindfulness. In both studies several moderation effects of mindfulness were found. Yet, the moderation effects of Study 1 were not statistically replicated in Study 2. Although some conceptually similar effects were found in Study 2, those effects were very small (Cohen 1992). Overall, the results show that mindfulness has no substantial effect on the well-being orientations and experiences relationship. Yet, mindfulness and well-being orientations, measured by the OTH-questionnaire and HEMA, were consistently related to well-being experiences. This points out, that both contribute to the experience of well-being, but beyond that not as interacting factors.

One post-hoc explanation for this overall non-interaction of orientations and mindfulness is, that the striving for well-being itself is not highly compatible with the mindfulness concept. The concept of mindfulness and its practise has its origin in Buddhism and is rooted in eastern philosophy (Bodhi 2011). Therefore, as part of the western adaptation some implicit Buddhist understandings of well-being might have also been adopted from people that practice mindfulness or are high in dispositional mindfulness. For example, striving or craving for the fulfilment of one's desires, especially for temporary hedonic experiences, is seen as a central source of suffering. From this point of view, the aim is to establish sources for happiness that are independent from the fulfilment of desires, any emotional states or external events (Joshanloo 2014). An orientation to well-being, in the sense of a pursuit of happiness might therefore not be specifically supported by high mindfulness.

Further, the results show a medium to strong positive relationship between mindfulness and well-being experiences over both studies (life satisfaction, affect, psychological wellbeing and engagement). This is consistent with previous research that confirms dispositional mindfulness to be related to a wide range of well-being experiences. In the present study, mindfulness is specifically strong in relation to psychological well-being, which is also consistent with previous studies (Hanley et al. 2015). Furthermore, mindfulness contributes substantially to the explained variance in well-being experiences. Therefore, the present studies primarly confirm the positive relationships between mindfulness and wellbeing experiences, even when they are statistically controlled for different well-being orientations. Additionally, in comparison to the orientations, measured by OTH and HEMA, mindfulness is a considerably stronger predictor of well-being experiences. In comparison to general intentions or beliefs with regard to well-being, that are a part of orientations, mindfulness might contribute more directly to well-being, for example through self-regulation abilities. Dispositional mindfulness is connected with self-regulation abilities, mainly through the mechanism of decentering (Brown et al. 2015; Short et al. 2016). Decentering is also discussed as a meta-mechanism of mindfulness that is responsible for the positive effects of mindfulness trainings (Garland et al. 2009; Shapiro et al. 2006).

The explorative comparison of meditators with non-meditators in both samples highlights differences in dispositional mindfulness, orientations and well-being experiences between those groups. In the meditator group dispositional mindfulness is substantially higher compared to non-meditators (Bergomi et al. 2015). The results confirm further that meditation practitioners show higher well-being (Hanley et al. 2015), although the differences are rather small and reveal no details about cause and effect of those differences. With regard to orientations only the life of meaning (OTH) and eudaimonia (HEMA) are significantly higher in meditators consistently in both studies. This points to a focus on eudaimonic well-being strivings in people high in dispositional mindfulness, and especially in regular meditators. It is possible, that meditators, might experience hedonic well-being not as a consequence of hedonic striving, but as a side-effect of an eudaimonic orientation (Huta and Ryan 2010). Further studies could investigate the role of meditation and how successful hedonic or eudaimonic strivings for well-being are for meditators (Sheldon et al. 2019). Other interesting research questions are if meditators might have developed a different understanding of well-being, if they pursue it in their every-day life actively and how mindfulness and meditation impacts this (non-)strivings. In general it should be considered that motives for starting and maintaining contemplative practices, such as meditation, are very diverse (SedImeier and Theumer 2020) and the experience of meditation practice and the self-reported dispositional mindfulness is only partly comparable and not always correlating (Manuel et al. 2017).

We further aimed to replicate the relationships between the OTH and life satisfaction. Overall, the present studies confirmed, that the OTH predict life satisfaction. One exception is the life of meaning, that showed in Study 1 no significant relationship to life satisfaction and in Study 2 showed only a small weight. As previously mentioned, this might be partly due to the mix of intentions and experiences in the wording of the items of the life of meaning. Furthermore, the regression weights of the OTH as well as the explained variance in life satisfaction through the OTH are relatively small. The bivariate correlations between OTH and life satisfaction showed medium effect sizes and are overall comparable in their size with correlations reported in a previous study with German-speaking participants (Peterson et al. 2007). In contrast, the well-being orientations of the HEMA questionnaire showed higher relationships to the assessed well-being experiences in Study 2. This might be due to the more differentiated measurement of well-being experiences.

For example, we used PWB as a dependent variable of Eudaimonia and affect as well as life satisfaction as a dependent variable of Hedonia. In contrast, the OTH-model suggests life satisfaction as an indicator of well-being that is predicted by all three orientations. For studies that investigate the orientation–experience relationship, it is useful to choose dependent variables measures of well-being experiences that also include the experiences targeted in the respective orientations.

Several limitations of the present studies should be addressed. Both studies used data from cross-sectional observations, which does not allow causal interpretations of the results. The data of both studies consisted of a convenience sample and the participants were mainly recruited through social media. Furthermore, in both samples female participants were strongly over-represented. Although all analyses were controlled for age and gender, the presented results are not representative of the German population.

In general, almost all scales showed good psychometric properties in both studies. Only the life of engagement subscale had a marginally low internal consistency in both studies. Previous studies showed similar low Cronbach's- α for the life of engagement using the German OTH-questionnaire (Ruch et al. 2010, 2014). For reasons of comparability, we refrained from modifying this scale.

Further, all variables were assessed as dispositional variables. The operationalisation as a trait has some limitations, because mindfulness as well as well-being can vary from day to day (Brown and Ryan 2003) and situations (Friese and Hofmann 2016). For instance, one study found benefits of mindfulness when it comes to the hedonic enjoyment of daily present-moment experiences in a longitudinal study design (Kiken et al. 2017). It is possible, that the relationships and interactions between orientations, well-being and mindfulness are different and more ecologically valid, when focusing on a daily or situational level.

We assessed dispositional mindfulness based on self-reports, which is a common instrument but has limitations. In general, we applied an understanding of mindfulness which is adapted from eastern Buddhist philosophy through western research. Because there is no common understanding of mindfulness in the present literature, the results can only be carefully interpreted with regard to the specific measurements we used (van Dam et al. 2018). Furthermore, we exploratively contrasted people with and without meditation experience and who practised regularly, with regard to orientations and experiences of wellbeing. Although meditation practise is one indicator of mindfulness, no reliable conclusions regarding the effect of mindfulness meditation on well-being can be made based on this study. Experimental studies could be useful in exploring the effect of mindfulness meditation on well-being experiences depending on the personal orientations to well-being that people have.

The assumption of a linear and direct relationship between orientations and experiences may oversimplify the complexity of mechanisms between the striving for and the subjective experience of well-being. For example, there is evidence, that individuals who scored high on all orientations simultaneously, reported the highest well-being (Huta and Ryan 2010; Peterson et al. 2005). Mindfulness might play a different role for people who are high or low in all well-being orientations. Regarding the orientations, we assessed a general orientation to well-being. Yet, there is evidence that motives to engage in activities differ depending on specific life domains, such as work or leisure (Rheinberg et al. 1997). Future studies could differentiate between such life domains in order to explore potential differences with regard to the role of mindfulness.

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Data Availability Data and supplementary materials are available at the Open Science Framework (https://osf.io/ynvt2/).

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional research committee of the Ruhr-University Bochum and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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