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# Value fulfillment and well-being: Clarifying directions over time

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**Abstract**

**Objective:** We investigate for the first time in a 9-day dairy study whether fulfilling one's values predicts well-being or whether well-being predicts value fulfillment over time.

**Background:** The empirical associations between the importance of human values to individuals and their well-being are typically weak and inconsistent. More recently, value fulfillment (i.e., acting in line with one's values) has shown to be more strongly correlated with well-being.

**Method:** The present research goes beyond past research by integrating work from clinical, personality, and social psychology to model associations between value fulfillment and positive and negative aspects of well-being over time.

**Results:** Across a nine-day diary study involving 1434 observations ($N=184$), we found that people who were able to fulfill their self-direction values reported more positive well-being on the next day, and those who fulfilled their hedonism values reported less negative well-being on the next day. Conversely, people who reported more positive well-being were more able to fulfill their achievement, stimulation, and self-direction values on the next day, and those who reported more negative well-being were less able to fulfill their achievement values. Importantly, these effects were consistent across three countries/regions (EU/UK, India, Türkiye), the importance people attributed to values, period of the week, and their prestudy well-being.

**Conclusion:** These results help to understand the fundamental interconnections between values and well-being while also having relevance to clinical practice.

**KEYWORDS**
longitudinal research, mental health, value fulfillment, valued living, well-being

## 1 | INTRODUCTION

Values are frequently conceptualized in the psychological literature as abstract ideals that people cherish as important guiding principles in their lives (Rokeach, 1973; Schwartz, 1992). However, while research shows that the amount of importance people attribute to values is linked to, for example, attitudes (Hanel et al., 2021) or behavior (Sagiv & Roccas, 2021), value importance is only weakly and inconsistently associated with well-being (Boer, 2017;

Nezlek, 2022). In contrast, value fulfillment is more reliably associated with well-being (Oppenheim-Weller et al., 2018). In the present research, we build on this new line of research as well as Acceptance Commitment Therapy (Hayes et al., 2006) and the literature on valued living, while also tackling the crucial issue of causal direction over time. Specifically, we investigate for the first time in a 9-day dairy study whether fulfilling one's values predicts well-being or whether well-being predicts value fulfillment over time, as both causal paths have important implications for clinical practice and theory. Additionally, we explore whether value type, valence, value importance, and country of residence moderate these effects. To foreshadow, the results of these tests help to substantively clarify the role of value fulfillment in well-being.

## 1.1 | Human values

Values play a role across social sciences, humanities, and beyond (Hofstede, 2001; Inglehart, 1977; Maio, 2010). In the present research, we focus on Schwartz's (1992) value model, because it is by far the most empirically supported model of values in psychology. Across a series of studies conducted in over 80 countries, Schwartz and colleagues identified 56 values that can be grouped into value types which can be ordered alongside a motivational continuum (Schwartz, 1992; Schwartz & Sagiv, 1995). This structure was mostly invariant across countries (Bilsky et al., 2011; Schwartz, 2012). The 56 values can be grouped into 10 value types, which in turn can be clustered into four higher-order value types (Figure 1).

Research has found that ratings of value importance help to predict a range of behaviors (Roccas & Sagiv, 2017) and attitudes (Hanel et al., 2021) such as pro-environmental behavior (Bouman et al., 2018) and attitudes toward immigrants (Davidov et al., 2008). Values may also predict well-being in an iterative manner: Values guide what emotions someone wants to experience and what situations someone is actively seeking, which can impact how they feel (Kesberg & Keller, 2018; Tamir et al., 2016), which in turn can reinforce their values (Fischer & Karl, 2022). However, associations of values with positive and negative aspects of well-being were mostly inconsistent. For example, while Sortheix and Schwartz (2017) found that higher ratings of security, conformity, and tradition were associated with lower subjective well-being, Haslam et al. (2009) found no such association and also observed that higher ratings of security predicted more positive affect. For negative well-being (e.g., anxiety and depression), the pattern was similarly inconsistent (Fischer et al., 2021; Hanel & Wolfradt, 2016; Zacharopoulos et al., 2021; for reviews see Boer, 2017; Schwartz & Sortheix, 2018).

More recent research found associations between well-being and value states (how important a value has been in the past 15 min; Fischer & Karl, 2022) and whether people's values match with those living around them (Hanel et al., 2020; i.e., value congruence; Sortheix & Lönnqvist, 2015; Wolf et al., 2021). However, effect sizes were small as well, suggesting that measures of value
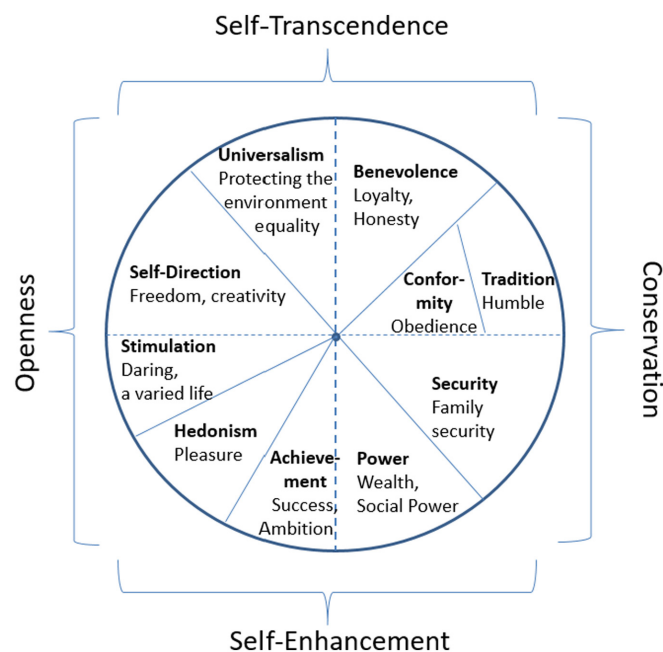


**FIGURE 1** Schwartz's (1992) circumplex model of human values displays four higher value types, ten value types (bold font), and examples of values in each type (normal font).

importance, by themselves, offer limited insight into psychological bases of well-being.

Experimental evidence also links values with emotions and well-being. People who affirm their (most important) values report more positive emotions (Crocker et al., 2008) and lower stress levels (Creswell et al., 2005). However, most value-affirmation experiments have not tested whether the effect is moderated by value type.

## 1.2 | Value fulfillment

More recently, Oppenheim-Weller et al. (2018) postulated and found that the extent to which people feel they are fulfilling their values is more important to their well-being than value importance. Across nine samples, Oppenheim-Weller et al. (2018) found that subjective fulfillment of each of the 10 value types was associated with higher well-being. They suggested that this is likely because fulfillment and importance differ in their focus: "Value importance represents what people desire and is portrayed as a hierarchy of desirable goals. Subjective value fulfillment represents the extent to which people feel they can attain what they desire" (p. 38). This finding is also broadly in line with research showing that value expressive behaviors but not value importance ratings predict well-being (Buchanan & Bardi, 2015).

Indeed, the finding that value fulfillment is associated with higher well-being is congruent with other psychological research on well-being. Self-determination theory (Ryan & Deci, 2000) postulates that fulfilling intrinsic goals can be beneficial for one's well-being. Because values are positive constructs (Hitlin & Piliavin, 2004), it is plausible that most or all values can act as these intrinsic goals. This role of value fulfillment is also consistent with a longer tradition in clinical psychology, where it is known as "valued living," specifically in research surrounding Acceptance and Commitment Therapy (ACT) (Hayes et al., 2006). ACT postulates that making people more aware of their values and helping them to fulfill those values is beneficial for their well-being (Wersebe et al., 2017). Supporting this view, a role for valued living has been found for various mental health conditions. Researchers have found that higher levels of valued living are associated with lower depression (Carvalho et al., 2021; Moyer et al., 2018) and anxiety (Donahue et al., 2017), as well as higher well-being (Baseotto et al., 2022; Finkelstein-Fox et al., 2020) and satisfaction with life (Graham et al., 2016; Hoyer et al., 2020). Furthermore, in a recent meta-analysis, Tunç et al. (2023) found negative correlations of valued living with depression and anxiety. The association between valued living and depression did not change significantly across populations, while the correlation between valued living and anxiety was stronger in chronic pain patients compared to the general population. Taken together, these findings clearly indicate that there is an association between value fulfillment and well-being/mental health.

This view has been echoed in the philosophical value fulfillment theory (Tiberius, 2018), which postulates that pursuing and fulfilling values we hold important can be beneficial for our well-being. More recently, however, DeYoung and Tiberius (2023) argued that well-being can also help us to fulfill our values. Higher well-being can result in being better able to fulfill one's values because well-being is associated with optimism and self-efficacy (Karademas, 2006; Lyubomirsky et al., 2005). Further, well-being might increase the commitment to specific values, which in turn can then result in experiencing a related emotional state more frequently (Schwartz et al., 2000). This prediction was partly supported in studies using longitudinal designs which examined the relationship between valued living and well-being at a daily level rather than retrospective assessments. For example, Grégoire et al. (2021) found that while daily well-being predicted valued living on the next day, value-based action on a given day did not predict well-being on the next day. To the best of our knowledge, no other study has examined the temporal relationship between values-based action and well-being.

Although these results are important and provocative, they leave unaddressed two fundamental questions. First, there is a lack of evidence for the causal direction of influence between value fulfillment and well-being. The extant research assumes an influence from value fulfillment to well-being, but it is also plausible that higher well-being makes people more able to pursue and fulfill their values (DeYoung & Tiberius, 2023; Fischer & Karl, 2022). Disentangling these effects in everyday life can help to determine whether value living is as much a foundation for well-being as it is a symptom of well-being. Second, if value fulfillment has a causal influence, its role might be context-specific. For example, a person might attribute high importance to achievement, but only be able to fulfill it on some days of the week, for example, while working. This means that there will be day-to-day variability in opportunities for value fulfillment, and these should be detectable with methodologies that –assess value fulfillment–well-being associations across everyday experience over time. While these methods are not definitive means for establishing causality, they can render some causal directions more plausible than others (Grosz et al., 2020). Such methods can also use the context-specific operation of value fulfillment to examine causal directions of influence, addressing calls (Oppenheim-Weller et al., 2018) for longitudinal studies of this association.

## 1.3 | The present research

Thus, the present research goes beyond past research by exploring relations over time and underlying mechanisms between value fulfillment and well-being. We also address a number of additional issues. For instance, we expand the valued living research, which assesses value fulfillment or valued action in general (e.g., "Today, I made choices based on my values, even if it is stressful"; Trompetter et al., 2013; see, e.g., Grégoire et al., 2021; Levin et al., 2018) by investigating different values: It is possible that fulfilling some but not all values are predictive of well-being. If confirmed, this would have important implications for clinical practice. However, to keep our daily survey to a manageable length, we assessed daily value fulfillment only for self-direction, stimulation, hedonism, achievement, and conformity values (i.e., five out of Schwartz's 10 value types). While we assumed based on Oppenheim-Weller et al.'s (2018) research that fulfilling all values is relevant to well-being (i.e., no moderation of value type), we selected those five value types because we assumed that fulfilling them (or not) would be especially relevant for our sample of mostly younger people: Younger people tend to value openness values and achievement more than older people (Foad et al., 2021; Robinson, 2012). We also included conformity because one of our sampled nations, India, is believed to be more collectivistic than another of our sampled nations, the UK (Hofstede, 2001), making it worthwhile to consider whether fulfilling one's conformity values would be associated with higher well-being in India than in the UK.

Beyond considering the moderating effects of value type and nation/region of residence, we explored whether a range of other variables would moderate the link between value fulfillment and well-being. First, we expected that the link between value fulfillment and value importance to be stronger for those participants who placed higher importance on a specific value (cf. Lee et al., 2021). If people do not consider a value to be important, it should matter less to them whether they have fulfilled it. Second, we avoided the mistake of lumping all well-being indicators together as one construct and instead explored whether the associations between value fulfillment and well-being depend on the aspect of well-being being examined. We expected that the results may vary between trait-level anxiety, depression, stress, positive affect, and negative affect would function. We had no specific hypothesis for these variables but included them because from a clinical perspective, there can be great utility in knowing whether living in line with one's values is more beneficial for some conditions (e.g., chronic pain) than others (Tunç et al., 2023).

Finally, we tested whether weekdays would moderate the value fulfillment–well-being link. Because most people tend to work or study more from Monday to Friday and spend more time with family and friends on the weekends,

we hypothesized that fulfilling achievement values would be more important during the week than on the weekend. We expected the reversed pattern for hedonism and stimulation, as it is easier for most people to fulfill these values during the weekend (e.g., during leisure time activities).

To achieve these aims, we asked participants from the EU including the UK and Schengen area countries, India, and Türkiye in Phase 1 to complete measures of value importance, positive affect, negative affect, general anxiety, depression, and stress. Phase 2 consisted of a 9-day diary study in which participants completed a short well-being measure alongside a brief measure of whether participants believed that they were able to act in line with different values. In Phase 3, we debriefed participants. Overall, we expected that value fulfillment would predict well-being over time, but also that well-being can also predict value fulfillment.

## 2 | METHOD

### 2.1 | Participants

Although a power analysis revealed that a sample of 106 participants would be needed to detect an effect of $r = 0.34$ (Oppenheim-Weller et al., 2018) with a power of 0.95, we aimed to recruit more participants in order to have greater power for exploratory tests of moderation. A total of 184 participants ($M_{age} = 26.91$, $SD = 9.28$, 66.8% women) were recruited from three samples, the European Union including the UK and Schengen area countries ($n = 57$, $M_{age} = 26.30$, $SD = 8.02$, 68.42% women), India ($n = 57$, $M_{age} = 29.82$, $SD = 12.42$, 61.4% women), and Türkiye ($n = 70$, $M_{age} = 25.03$, $SD = 6.17$, 70% women). Participants were mainly recruited via social media. The 184 participants responded on 1435 days to the daily survey. This sample size is larger than that of many similar diary studies that recruited between 70 and 122 participants (Finkelstein-Fox et al., 2020; Grégoire et al., 2021; Levin et al., 2018; Pavlacic et al., 2021). To incentivize participants, we performed a prize draw with three times £30. The data, R-code to reproduce the longitudinal analyses, and surveys are available on https://osf.io/h6ayu/?view_only=e53e209390304254af6681addb4b92be

### 2.2 | Procedure

This study consisted of three phases. In Phase 1, participants provided demographic information and completed Schwartz's (1992) value survey, Diener et al.'s (1985) satisfaction with life scale, the negative and positive affect scale (Mroczek & Kolarz, 1998), and the Depression Anxiety Stress Scales (Henry & Crawford, 2005). In Phase 2, participants completed measures of value fulfillment and

psychological well-being for 9 days. To reduce attrition, the questionnaire comprised as few items as possible (below).

We aimed to get participants to respond on five weekdays (803 observations) and two weekends (i.e., two Saturdays and Sundays, respectively; 631 observations) to ensure a wide spread of activities (e.g., working, spending time with family). Participants were asked to complete the daily survey between 8 and 10 pm (local time) each evening, as we believed that participants would be likely to take time to respond (e.g., already finished working or studying but had not gone to sleep yet) and previous research has found that people across 20 countries experienced the situation at 7 pm similarly (Guillaume et al., 2016). In Phase 3, participants were asked to reflect on their experience of thinking about their values, comment on the study, and were debriefed.

## 2.3 | Measures

All questionnaires were prepared in three languages. An English version of the questionaires was presented to the EU/Schengen sample, a Turkish version to the Türkiye sample, and a Hindi version to the India sample. The questionnaires not yet available in Turkish and Hindi were translated into Turkish and Hindi and then back-translated to English by other people who were also fluent in Turkish and English or Hindi and English. Participants completed the questionnaires in the language they preferred.

### 2.3.1 | Value importance

Value importance was measured in Phase 1 with the 57-item Schwartz (1992) Value Survey. Participants rated the importance of the items as a guiding principle in their lives on a 9-point scale ranging from −1 (opposed to my values), 0 (not important), 3 (important) to 7 (of supreme importance). For the Turkish version, we used the Turkish translation (Kuşdil & Kağitçibaşi, 2000). The Turkish version contained four values not reported in the English version (e.g., superiority of men, hospitality) and was not included in our analyses. The internal consistencies, Cronbach's $\alpha$s, were comparable to those reported in the literature (Parks-Leduc et al., 2014): Self-direction 0.72, stimulation 0.66, hedonism 0.72, achievement 0.71, power 0.67, security 0.70, conformity 0.70, tradition 0.71, benevolence 0.71, and universalism 0.83.

### 2.3.2 | Satisfaction with life

Satisfaction with life was measured with Diener et al.'s (1985) 5-item scale. Example items include "In most

ways my life is close to my ideal" and "I am satisfied with my life." Responses were given on a 7-point scale ranging from 1 (Strongly disagree) to 7 (Strongly agree; $\alpha = 0.87$).

### 2.3.3 | Negative and positive affect

Negative and positive affect was assessed with the negative and positive affect scale (Mroczek & Kolarz, 1998). The scale assesses negative and positive affect with 6-items, respectively. Example items include "During the past 30 days, how much of the time did you feel…worthless?" and "…cheerful?" Responses were given on a 5-point scale ranging from 1 (None of the time) to 5 (All the time). Internal consistencies were good for negative ($\alpha = 0.83$) and positive affect ($\alpha = 0.88$).

### 2.3.4 | Depression, anxiety, and stress

Depression, anxiety, and stress were assessed with the short form of the Depression Anxiety Stress Scales (Henry & Crawford, 2005). These scales consist of 21 items, measuring each clinical construct with 7 items on a 4-point scale, ranging from 0 (Did not apply to me at all) to 3 (Applied to me very much, or most of the time). For the Turkish version, we used the Turkish translation (Sarıçam, 2018). The internal consistencies for depression, anxiety, and stress in the current study were $\alpha = 0.82$, 0.77, and 0.77, respectively.

### 2.3.5 | Daily value fulfillment

We adapted the instructions and items from Oppenheim-Weller et al. (2018) as well as Oppenheim-Weller and Kurman (2017) to measure daily value fulfillment for self-direction, stimulation, hedonism, achievement, and conformity, including a brief definition for each value type (Schwartz, 1992, 1994). For example, hedonism was assessed using this item: "How much do you feel you have acted in accordance with the value of Hedonism during the day? Hedonism: Pleasure and sensuous gratification for oneself; pleasure, enjoying life, self-indulgent." Responses were given on an 11-point scale ranging from 0 (not at all) to 10 (extremely).

### 2.3.6 | Daily well-being

Daily well-being was assessed with seven items. The items were selected to match the measures we presented in Phase 1. Participants were asked to rate their daily depression,

anxiety, stress, satisfaction with their life, mood, and general motivation levels, as well as their sleep quality in the previous night. Example items include "What was your stress level like today?" "What was your mood like today?" and "How was the quality of your sleep last night?" Responses were given on an 11-point scale from 0 (extremely low/bad) to 10 (extremely high/good). Additionally, we asked participants to indicate their main activity: Working, studying, spending time with my partner, spending time with my friends, spending time with my family, relaxing, or others.

# 3 | RESULTS

## 3.1 | Cross-sectional analysis

We examined whether correlations between value importance scores and well-being measures in phase 1 replicated previous associations between values and well-being. Similar to past research (Boer, 2017; Oppenheim-Weller et al., 2018), value importance, and the well-being measures were only weakly correlated (Tables S1 and S2). In contrast, well-being measures interrelated as expected. For example, life satisfaction was negatively correlated with depression, $r(182) = -0.47$, $p < 0.001$, but positively with positive affect, $r(182) = 0.47$, $p < 0.001$.

## 3.2 | Longitudinal analysis

We tested whether the seven daily reported well-being indicators could be reduced into fewer factors using the R package nFactors (Raiche & Magis, 2022). The analysis was conducted across all participants and time points using all available observations as independent data points. Two factors had eigenvalues larger than 1 (3.76 and 1.20 respectively). The first factor explained 53.78% variance, the second factor an additional 17.09%. Additionally, the Kaiser-Gutmann Criterion, Optimal Coordinates, and visual inspection of the screeplot suggested two factors: Satisfaction, mood, sleep quality, and motivation loaded on the first factor which we called positive well-being ($\alpha = 0.79$), whereas stress, depression, and anxiety loaded on a second factor which we called negative well-being ($\alpha = 0.84$).

To test whether value fulfillment predicted well-being or vice versa, we ran a series of conditional growth models using the R package nlme (Pinheiro et al., 2021). Time shifting allowed us to test whether any changes in the outcome from time 1 to time 2 can be explained by the predictor at time 1 (Duckworth et al., 2010). For all models, we first checked whether a no-growth model (i.e., a model with just a random intercept per individual, without random slopes over time) would be better

at explaining variance than a linear growth model (i.e., a model with linear random slopes over time). The linear growth model did not significantly explain variance over the no-growth model in predicting future positive well-being ($p = 0.072$). However, the linear growth model significantly explained variance over the no-growth model in predicting future negative well-being ($p < 0.001$) and all future value fulfillment variables ($ps < 0.005$). We also checked whether a quadratic trend of time in addition to a linear trend would explain additional variance. This was only the case for future conformity ($p = 0.02$), future achievement ($p < 0.001$), future self-direction ($p = 0.018$), and future hedonism ($p < 0.001$). Accordingly, we modeled quadratic growth when these value fulfillment variables were predicted. For predicting all other variables we used only the linear trend. All multilevel models only included participants without missing data in the relevant variables.

The regression equation for the models can be written on level 1 as follows:

$$Y_{it} = \beta_{0i} + \beta_{1i}\text{time} + \beta_2\text{NextDay}_{it} + \beta_3\text{Value 1}_{it-1} \dots$$
$$\beta_n\text{Value } n_{it-1} + e_{it},$$

where $Y$ is the well-being outcome, $\beta_{0i}$ is an individual's ($i$) random intercept, $\beta_{1i}$ is the random growth slope over time for that individual, $\beta_2$ includes the fixed effect of the binary variable "Next Day" which was added to control for whether the participant had completed the last survey on $t-1$, $\beta_3 - \beta_n$ represent the fixed effects for time-lagged ($t-1$) value predictors (which are time-varying covariates), and $e$ represents the level one (within-person) residual of individual $i$ at timepoint $t$.

With both the intercept and slope for time being estimated at level 2, we add the following to estimate the individuals' random intercept $\beta_{0i}$ and random growth coefficient $\beta_{1i}$:

$$\beta_{0i} = \beta_{00} + u_i$$

$$\beta_{1i} = \beta_{01} + r_i$$

These are thus defined as deviating from a grand intercept ($\beta_{00}$) and a fixed effect of time ($\beta_{01}$) by margins expressed in the level 2 error terms $u_{0i}$ (the deviation of the random intercept of person i from the grand intercept), and $u_{1i}$ (the deviation of the growth coefficient of person $i$ from the fixed effect of time).

### 3.2.1 | Value fulfillment predicts future well-being

First, we performed 5 (values)×2 (positive vs. negative well-being) growth models with time as fixed and random

effects, which are crucial for controlling for past effects of the outcome variable. That is, we include only one value type at a time in each growth model. Given the number of comparisons, we set our $\alpha$-threshold to 0.01, which is in our view, neither conservative nor liberal as the predictors and outcomes are correlated with each other.[1] We found that fulfilling conformity, hedonism, and self-direction values was associated with higher positive well-being, and fulfilling hedonism values were associated with lower negative well-being (Table 1). These results indicate, for example, that people who were able to act in line with their self-direction values on a given day reported higher positive well-being on the next day. The pattern of results remained the same when all five values were entered simultaneously.

### 3.2.2 | Well-being predicting future value fulfillment

To test whether well-being predicted future value fulfillment, we performed the same 2 (well-being)×5 (values) analyses as before, with a given day's positive and negative well-being as predictors and the next day's value fulfilments as outcomes. We again used $\alpha = 0.01$ as the threshold.

Higher positive well-being predicted higher achievement (Table 2). Thus, positive well-being on the previous day influenced the extent to which people were able to act in line with their achievement values on the following day. Further, more positive well-being predicted more fulfillment of both stimulation on the next day, alongside a marginal trend ($p$s < 0.04) for more negative well-being to predict less fulfillment of self-direction values on the next day.

Finally, we tested whether value fulfillment predicts well-being on the same day and whether well-being predicts value fulfillment, also on the same day, using linear mixed effects models without time shifting. Almost all associations were significant with $p$s < 0.001 (Tables S3 and S4).

## 3.3 | Test of moderators

Finally, we tested whether the prediction of well-being from value fulfillment is moderated by value importance,

weekday (in the week vs. weekend), and country as well as whether the prediction of value fulfillment from well-being is moderated by anxiety, depression, stress, satisfaction with life, positive affect, and negative affect. All predictors and moderators were standardized. Given the number of comparisons, we set the $\alpha$-threshold to 0.005. To estimate regression effects, all models included cross-level interactions of the value fulfillment at any given day (a time-varying covariate) with the, for instance, importance of the value dimension at the start of the study (a time-invariant covariate). Thus, interactions were computed at level 2.

### 3.3.1 | Interactions with value fulfillment

We tested whether the importance of a value moderated the effects of fulfilling the value on well-being (e.g., hedonism fulfillment×hedonism importance, stimulation fulfillment×stimulation importance). None of the 5 (values)×2 (positive vs. negative well-being) interactions were significant, $p > 0.02$.

To test whether a day in the week versus the weekend moderates the fulfillment–well-being link, we focused on the fulfillment of achievement, hedonism, and stimulation, because we had specific predictions for them. None of the 3 (values)×2 (positive vs. negative) interactions were significant, $p$s > 0.009.

To test whether country (EU/UK, India, and Türkiye) moderated the value fulfillment–well-being link, we used EU/UK as the reference country. Again, none of the 5 (values)×2 (positive vs negative well-being)×2 (country pair: EU/UK vs India, EU/UK vs Türkiye) interactions were significant, $p$s > 0.03. Also, no main effect of country was significant.

### 3.3.2 | Interactions with well-being

To test whether any of the five well-being variables measured in Phase 1 moderated the well-being–value fulfillment link, we performed 2 (positive vs. negative well-being)×6 (well-being variables measured in Phase 1)×5 (values)

**TABLE 1** Daily value fulfillment predicts well-being on next day.

| | Future positive well-being | | | Future negative well-being | | |
|---|---|---|---|---|---|---|
| | *B* | *SE* | **p** | *B* | *SE* | **p** |
| Conformity | 0.06 | 0.02 | 0.009 | 0.02 | 0.03 | 0.535 |
| Achievement | 0.05 | 0.02 | 0.012 | −0.00 | 0.02 | 0.840 |
| Hedonism | 0.05 | 0.02 | 0.007 | −0.06 | 0.02 | 0.008 |
| Stimulation | 0.04 | 0.02 | 0.064 | −0.00 | 0.02 | 0.844 |
| Self-direction | 0.11 | 0.02 | <0.001 | −0.00 | 0.03 | 0.900 |

**TABLE 2** Daily well-being predicts value fulfillment on next day.

| | Conformity | | | Achievement | | | Hedonism | | | Stimulation | | | Self-direction | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | B | SE | p | B | SE | p | B | SE | p | B | SE | p | B | SE | p |
| +WB | 0.03 | 0.04 | 0.442 | 0.17 | 0.04 | <0.001 | 0.06 | 0.05 | 0.231 | 0.12 | 0.05 | 0.005 | 0.07 | 0.03 | 0.087 |
| −WB | −0.02 | 0.03 | 0.488 | −0.04 | 0.03 | 0.268 | −0.01 | 0.03 | 0.711 | −0.02 | 0.03 | 0.669 | −0.04 | 0.03 | 0.021 |

Abbreviations: +WB, positive well-being; −WB, negative well-being.

moderated regressions. None of the 60 interaction terms reached statistical significance at $\alpha = 0.005$, $ps > 0.006$.

### 3.3.3 | Attrition

Attrition analyses revealed that across all participants on 221 days, no response was given (vs. 1434 days on which participants gave a response). To test whether this had an impact on associations presented in Tables 1 and 2, we included the number of days each participant missed as a moderator. None of the 10 associations were moderated by days missed, indicating that attrition was not systematic and therefore did not bias our findings.

## 4 | DISCUSSION

The present research was designed to build a better understanding of the extent to which value fulfillment influences well-being and vice versa. We found evidence for effects in both directions: people who were able to fulfill their self-direction values reported more positive well-being on the next day, whereas those who fulfilled their hedonism values reported less negative well-being on the next day. Conversely, people who reported more positive well-being were more able to fulfill their achievement, stimulation, and self-direction values on the next day, whereas those who reported more negative well-being were less able to fulfill their achievement values on the next day. Importantly, these effects were consistent across three different countries/regions, the importance people attributed to values, period of the week, and their prestudy well-being.

It is interesting that, of the five values tested, only self-direction fulfillment predicted positive well-being over time, which is consistent with longitudinal research on value importance (Fetvadjiev & He, 2019; Grosz et al., 2021). Self-direction values encompass more of a growth focus than the other four values we examined (Schwartz et al., 2012). This role for self-direction values aligns well with self-determination theory (Ryan & Deci, 2000) because of this theory's emphasis on self-driven fulfillment of basic psychological needs (esp. needs for autonomy, competence, and relatedness). However, future research is needed to test whether this finding also applies to older participants, as the average age of our sample was only 26 years: Self-direction and other openness values are on average endorsed more by younger people (Foad et al., 2021; Robinson, 2012), making it useful to confirm whether self-direction fulfillment is as relevant for positive well-being among older participants.

While self-direction fulfillment uniquely predicted an increase in positive well-being the next day, hedonism

fulfillment uniquely predicted a decrease in negative well-being on the next day. Typical behaviors associated with hedonism are relaxing and doing pleasant things (Bardi & Schwartz, 2003). From our results, it seems likely that such basic leisure activities are more beneficial to reduce negative feelings, such as anxiety, depression, and stress than the activities involved in the fulfillment of other values (e.g., achievement, stimulation). It may be the case that fulfillment of other values has more complex effects on these negative states. For example, strivings to achieve and conform may be inherently anxiety-eliciting, and even fulfillment of these values may often come with enough uncertainty about future value fulfillment to leave such anxiety somewhat unabated.

Regardless of the precise reasons for the distinct roles of self-direction and hedonism value fulfillment, our findings illustrate the importance of considering different values, rather than valued living overall. Not only did we see different findings for different values, but prior evidence indicates that valued living overall is not predictive of next-day stress and well-being (Grégoire et al., 2021). Considering that the valued living measure was found to be a significant moderator of the relationship between valued living and anxiety (Tunç et al., 2023), it is important to recognize that fulfillment of some values may be more important for well-being than fulfillment of other values. In this regard, an interesting question is whether fulfillment of the other five values of Schwartz's (1992) model we have not included here (universalism, benevolence, power, security, and tradition) also exhibit different impacts on well-being. We speculate that fulfillment of benevolence values might be particularly associated with higher well-being on the next day, because benevolence is more likely to be fulfilled when we help others, and helping others has been linked with more positive well-being (Buchanan & Bardi, 2010; Liao et al., 2022). The recent cybernetic theory of value fulfillment goes a step further and suggests that even Schwartz's values might be too unspecific and that focusing on values that are important to every specific person might be more beneficial in predicting well-being (DeYoung & Tiberius, 2023). However, Schwartz (1992) has empirically demonstrated across 20 countries that none of his collaborators was able to come up with any value that was missing. Instead, we propose that, in addition to focussing on values, which are abstract ideals, it might be fruitful to focus on value instantiations, exemplifiers of values (Maio, 2010). We hope that our findings will inspire a range of studies on the distinct effects of fulfilling different values on well-being.

However, the effects of value fulfillment on well-being should be considered also in light of the evidence for the effects of well-being on value fulfillment: Stress and well-being were found to predict next-day valued living (Finkelstein-Fox et al., 2020; Grégoire et al., 2021), which is consistent with our findings that positive well-being predicted more fulfillment of achievement, stimulation, and self-direction values the next day, and with our finding that negative well-being predicted less fulfillment of achievement values on the next day. Those findings align with the broader well-being literature, which includes evidence that well-being engenders success in many areas, including job performance (Lyubomirsky et al., 2005; Wright & Cropanzano, 2000). Higher well-being usually indicates that life is going well (Clore et al., 2001), which allows people to "broaden and build" (Fredrickson, 2001), or, as Lyubomirsky et al. (2005, p. 804) put it, "people experiencing positive emotions take advantage of their time in this state—free from immediate danger and unmarked by recent loss—to seek new goals that they have not yet attained." Indeed, well-being is positively associated with optimism and self-efficacy (Karademas, 2006), which makes it more likely that people who feel good work toward their goals. For example, participants who feel better may be more likely to make plans for the next day, which allows them to better fulfill their values.

## 4.1 | Implication for clinical practice

Our findings have potential implications for clinical practice. Most research has examined how mental health/well-being is affected after valued living interventions. In this study, we found evidence for an effect in the opposite direction: well-being might also impact how we act in accordance with values. This evidence may be considered when working with patients resistant to behavioral activation for valued living. It might be more beneficial to focus on increasing positive well-being rather than reducing negative well-being, as it will increase value fulfillment, which in turn further increases positive well-being. Further, our finding that hedonism predicts reduced negative well-being provides support for the therapies which induce relaxation and leisure. Thus, values-based interventions may have an important role in promoting positive mental health. Such intervention programs can be introduced in schools, universities, and other public health-related settings.

## 4.2 | Limitations and future directions

This study has some limitations that might be addressed in future studies. First, only five value types (self-direction, stimulation, hedonism, achievement, and conformity) were used in this research and the subsequent studies may investigate the role of all value types included in Schwartz's (1992)

model. Second, our findings are based on a relatively young sample of the general population. Age and population were found to be significant moderators of the association between values-based action and mental health constructs in a recent meta-analysis with effects being stronger for older people (Tunç et al., 2023). Therefore, these findings should be examined in different age groups and populations, including clinical samples. Finally, while longitudinal diary studies in which participants complete daily a survey are frequently used in the literature (e.g., Mahadevan et al., 2023), they might not be fine-grained enough in some instances. Specifically, the value fulfillment to well-being link might have been weakened by participants doing different activities between the two measurement points, which could have weakened the impact of value fulfillment the day before. Similarly, the link from well-being to value fulfillment might have been weakened by intervening changes in well-being (e.g., from night to next evening). Therefore, our approach can be considered conservative for estimating both causal directions. Nevertheless, this limitation points also an interesting avenue for future research: The underlying processes from value fulfillment to behavior. How does value fulfillment affect behavior the next day and how does this, in turn, impact well-being?

## 5 | CONCLUSION

Across a diary study involving 1434 observations, we found that acting in line with one's values can increase well-being, but also that well-being can increase the likelihood of acting in line with one's values. Importantly, we found that this effect was moderated by value type. These results help to understand the fundamental interconnections between values and well-being, while also having relevance for clinical practice.

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## ENDNOTE

[1] We acknowledge that any α-threshold is subjective as a number of factors play into it such as correlation among variables, number of comparisons, risk or gain of type I and type II errors, etc. We report exact uncorrected $p$ values in case readers have other preferences.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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