

Flourishing in the now: Initial validation of a present-eudaimonic time perspective scale

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Abstract

Introduction: A positive focus on the present, the only time zone which we experience directly and permanently, is at least as relevant as perspectives on the past and future in a balanced time perspective and its relation to wellbeing. Yet, few instruments examining a positive present time perspective exist. Two present-directed concepts, mindfulness and flow, that are intrinsically linked to mental wellbeing were analyzed and used to formulate a present-eudaimonic scale that complements the past and future scales of the balanced time perspective scale. The present study addresses the psychometric properties of the present-eudaimonic scale and the modified balanced time perspective scale.

Method: 131 participants filled out the present-eudaimonic scale, the balanced time perspective scale, the Zimbardo time perspective inventory, the five facet mindfulness questionnaire – short form, the Swedish flow proneness questionnaire and the mental health continuum – short form. Balanced time perspective was operationalized using the deviation from a balanced time perspective coefficient.

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Results: The present-eudaimonic scale showed good psychometric properties including internal consistency, factor structure, and convergent validity. The present-eudaimonic scale explained an additional eleven percent of variance in mental health beyond the other time perspective scales. Balanced time perspective as measured with the modified balanced time perspective scale correlated significantly stronger with mental health than balanced time perspective measured with the *Zimbardo time perspective inventory*.

Conclusions: The present-eudaimonic scale fills a gap in the assessment of time perspective and the modified balanced time perspective scale is a promising way to study balanced time perspective.

Keywords

Time perspective, present time perspective, balanced time perspective, scale development, mindfulness, flow

Between the abstract, psychological constructions of prior past and anticipated future events lies the concrete, empirically centered representation of the present. (Zimbardo and Boyd, 1999: 1272)

Classical and modern philosophers and scientists have fiercely debated the question whether time exists ontologically or not. Whereas Newton (1687/2013) has argued that time is a fundamental, observer-independent, universe-inherent structure of existence, Kant (1781/1986) believed that it is “merely” a fundamental structure of our perceiving of the universe and Einstein claimed that our distinction between past, present and future is an illusion (Einstein and Besso, 1972: 537–538). From a psychological point of view, our subjective perception of time, divided into past, present, and future is an important aspect of almost all human functioning, independent of the question whether they possess an ontological reality. The psychology of time perspective is a burgeoning field of modern psychology that investigates human coping with temporality and individual differences in the propensity to focus on past, present, and/or future and their psychosocial implications and consequences. Zimbardo and Boyd (2008) point out that the present plays a unique role: whether you remember happy moments from the past or expect them in the future, you only experience happiness in the present. Nonetheless, few attempts to operationalize a healthy relation to the present have been conducted. In this paper, we present a new scale that assesses a positive perspective on the present and complements an

existing scale on balanced time perspective (BTP) (balanced time perspective scale (BTPS); Webster, 2011).

Balanced time perspective

Zimbardo and Boyd (1999: 1271) defined time perspective as the “often nonconscious process whereby the continual flows of personal and social experiences are assigned –to temporal categories, or time frames, that help to give order, coherence, and meaning to those events”. The most widely used instrument for the assessment of time perspectives is the Zimbardo time perspective inventory (ZTPI; Zimbardo and Boyd, 1999), which consists of five subscales measuring affective relations with one’s past (past positive and past negative), coping style regarding future-related responsibilities and goals (future) and propensity to apply a hedonistic (present hedonistic) or a fatalistic attitude (present fatalistic) towards the present.

Time perspectives are said to be among the most powerful influences on virtually all aspects of human behavior (Boniwell and Zimbardo, 2003). They are indeed empirically related to various aspects of human functioning, such as emotional intelligence (Stolarski et al., 2011), identity formation in adolescents (Laghi et al., 2013; Luyckx et al., 2010), psychopathology (Van Beek et al., 2011), life satisfaction (Zhang and Howell, 2011), and environmental behaviours (Milfont et al., 2012).

Scholars have argued that it is not a single time perspective, but rather the balance between different time perspectives that is important in understanding and achieving psychological wellbeing (e.g. Boniwell and Zimbardo, 2003, 2004). Zimbardo and Boyd (1999) characterize a BTP as a specific composition of past, present, and future time perspectives, which is optimal for psychological and physical health as well as societal functioning. Zimbardo and Boyd (2008) suggested operationalizing BTP as a particular pattern of scores on the ZTPI, namely high past positive scores, low scores on the past negative and the present-fatalistic scale, and moderately high scores on the future and the present-hedonistic scale. Stolarski et al. (2011) specified the most desirable scores to a certain value per subscale. BTP, measured with the ZTPI, was found to be related to various aspects of wellbeing, including positive mood (Stolarski et al., 2014), self-determination and gratitude (Zhang et al., 2013a), happiness (Drake et al., 2008), mindfulness (Drake et al., 2008, Seema and Sircova, 2013), temporal life-satisfaction (Boniwell et al., 2010), and emotional intelligence (Stolarski et al., 2011).

Webster (2011) points out that some items of the ZTPI future scale measure time management rather than affective concerns (e.g. “I believe

that a person's day should be planned ahead each morning"). Webster (2011) construed an alternative instrument, the BTPS, in which every item features an affective component (e.g. "Achieving future dreams is something that motivates me now"). Studies using this scale found relations of a BTP to self-esteem, life satisfaction, happiness, wellbeing, and wisdom (Webster, 2011; Webster and Ma, 2013; Webster et al., 2014).

Present time perspective

Present time perspective is probably the core factor of BTP (cf. Seema and Sircova, 2013), since reconstructing the past and anticipating the future takes place in the present (Zimbardo and Boyd, 1999; 2008). However, individual relations to the present are probably the most difficult to assess, since the present is directly and permanently experienced and therefore hard to externalize, objectify, and relate to. Yet, there is a need for a scale measuring a positive present time perspective. The BTPS does not have a present subscale and the present-hedonistic subscale of the ZTPI does not have unequivocally positive implications for mental wellbeing. In some studies the present-hedonistic scale of the ZTPI is related to measures of subjective wellbeing (Boniwell et al., 2010; Zhang and Howell, 2011; Zhang et al., 2013a), whereas in other studies it is related to a tendency to engage in risky behavior such as substance abuse (Fieulaine and Martinez, 2011; Keough et al., 1999).

Sobol-Kwapinska (2009) distinguishes an active concentration on the present as a third relation to the present besides a hedonistic and a fatalistic relation. She developed the *Carpe Diem Scale* to measure active concentration on the present. It showed positive correlations with life satisfaction (Sobol-Kwapinska, 2009) as well as with sense of meaning and purpose in life, and positive affect (Sobol-Kwapinska, 2013). The items of the Carpe Diem scale are mostly evaluative statements about the value of a present orientation like "The present is very important for me", or "What happens in the present is very vital for my life". The items show the value of a present orientation, but not its affect-laden quality.

The goal of the current article is to construe a scale that measures a positive present orientation that can serve to complement the affect-laden past and future scales of the BTPS. We used mindfulness and flow to conceptualize a positive relation with the present, since both are present-oriented concepts that are intrinsically linked to positive functioning and wellbeing. Mindfulness is a mode of consciousness characterized by an open, nonjudgmental awareness of sensual, cognitive, emotional, and other phenomena that are present in the moment (e.g. Bishop et al.,

2004). Flow is a state of being absorbed in the now, which is referred to as optimal functioning (Csikszentmihalyi, 1990).

Zimbardo and Boyd (2008) stated that in a holistic (i.e. mindful) present perspective the past, the present, the future, the physical, the mental, and the spiritual elements in life are not separate but closely interconnected. Mindfulness is an attribute or mode of consciousness, which is central to Buddhist psychology (Hanh, 1976, 1998), and has been imported to western psychology (Kabat-Zinn, 1982). Mindfulness is linked to wellbeing, self-regulation, (de-automatization of) cognitive processes, and psychological flexibility (Baer, 2009; Brown and Ryan, 2003; Chiesa et al., 2011; Fledderus et al., 2010; Keng et al., 2011, Kang et al., 2013). Recently, Seema and Sircova (2013) found that mindfulness is the most important component of BTP, the awareness of one's time perspectives, as well as a time perspective itself, which additionally explained most variance in time perspectives, supporting the assumption that present perspective is the core factor of time perspective.

The concept of flow refers to an experience during which people are fully involved in or absorbed by a completely intrinsically motivated (autotelic) activity in the present moment. Flow experiences occur when the challenge level of an activity and the personal skill level match each other (Csikszentmihalyi, 1975, 1990). It is necessary that the task has clear goals and provides immediate satisfaction. Subjective experiences that frequently accompany the state of flow are disappearance of self-consciousness, altered sense of time, and acting with deep but effortless, voluntary involvement without worries about everyday life. Another indicator for a flow experience is the occurrence of "action-awareness merging", which means that the degree of involvement with the current activity is so deep that it feels as (almost) automatically happening. Self-awareness is weakened and therefore the impact of past and future on emotional and cognitive functioning are minimized. Flow is associated with life satisfaction (Asakawa, 2010; Bassi et al., 2014) and psychological wellbeing (Bassi et al., 2014; Steele and Fullagar, 2009).

Evidence suggests that mindfulness might be a fruitful context for fostering flow-experiences. Research in the field of sport psychology shows that mindfulness practice increases levels of state flow (Kaufman et al., 2009) and that high mindfulness is correlated to aspects of flow such as challenge-skill balance, clear goals and concentration as well as to action-awareness merging and loss of self-consciousness (Kee and Wang, 2008). Assuming that mindfulness and flow support and supplement each other, we decided to use these concepts as starting-points for the conceptualization of a healthy or *eudaimonic* relation to the present.

Eudaimonia means living life in a full and deeply satisfying way (Deci and Ryan, 2008). Eudaimonia, implying personal growth, meaning in life,

interrelatedness, and self-actualization, is contrasted with hedonia or hedonism (Huta and Waterman, 2013; Ryan and Deci, 2001; Waterman, 1993;), which in modern psychological terms is characterized by the presence of life satisfaction and positive affect as well as the absence of negative affect (Deci and Ryan, 2008). Ryan et al. (2008) characterized eudaimonia as associated to several motivational concepts, among others, being mindful. Waterman (1990) pointed out that flow relates to or is even synonymous with eudaimonia. Since our present-positive scale is derived from mindfulness and flow as two processes related to eudaimonic well-being, we decided that “present-eudaimonic” would be a proper name for the scale, which also contrasts it with the present-hedonistic scale of the Zimbardo scale.

Study aims and hypotheses

The goal of this article is to provide an initial validation of a eudaimonic present perspective scale that can complement Webster’s (2011) BTPS. The final three-dimensional BTPS is intended to match Zimbardo’s quote (2002: 62) on BTP:

[A positive past orientation is] where positive self-esteem is nourished. A future orientation gives us wings to soar to new destinations, to seek new challenges and opportunities by envisioning scenarios of possible future selves. A present time perspective allows spontaneity, sensation seeking, openness to novelty, being in the moment and fully experiencing and expressing emotions.

It also does accord with Seligman’s and Csikszentmihalyi’s quote (2000: 5) on what positive psychology is about: “well-being, contentment, and satisfaction (in the past); hope and optimism (for the future); and flow and happiness (in the present)”.

We hypothesize that a short scale on a present-eudaimonic perspective can be developed that has a clear one-dimensional factor structure, good internal consistency, and no social desirability bias. The scale will show convergent validity with instruments measuring mindfulness, flow, and positive mental health (i.e. emotional, psychological, and social wellbeing; Keyes, 2005; Lamers et al., 2010). The scale will show divergent validity from other time perspective scales in that it has a unique relationship with mindfulness, flow, and positive mental health, when controlling for other time perspectives. Furthermore, we expect these unique relationships to be the strongest among time perspectives. We expect this for mindfulness and flow as we conceptualized the present-eudaimonic scale in terms of

mindfulness and flow and we expect it for positive mental health as the present is the only time zone which individuals experience directly and permanently.

Including the present scale in the BTPS will result in a clear factor structure with three components: past, future, and present. Balanced time perspective as measured with this three-dimensional scale will show convergent validity in that it is related to positive mental health. It will show divergent validity in that it is more strongly related to positive mental health than BTP as measured with the ZTPI, because the latter lacks a clearly positive present scale.

Method

Item generation and pilot test

An initial item pool of 26 items was created by the authors of this paper, based on the literature on mindfulness and flow. Using the three-step test interview (Hak et al. 2008), eleven participants filled out these items while thinking aloud. These participants varied in gender, age, experience in mindfulness, and history of mental illness. All interviews were recorded and analyzed. Three items were deleted due to difficulties and diversity in interpretation. Furthermore, given the interpretation problems, the response format was changed from agree–disagree to frequency.

Participants

An ad hoc sampling procedure was used to recruit participants both from the University of Twente and the social networks of the researchers. Psychology students received credits for participation. Eighty-four women and 67 men ($n = 151$) completed all 23 items of the initial version of the present-eudaimonic scale. Of these participants, 131 (73 women) also completed all other scales. Participants ranged in age from 18 to 58 years ($M = 25.7$; $SD = 7.0$). Thirty-seven participants were native Dutch speakers and 85 were native German speakers. Twelve participants had other native languages. All participants understood English very well and filled out the questionnaires in this language.

Measures

Present-eudaimonic scale. All 23 items of the initial present-eudaimonic scale were derived from conceptions of mindfulness and flow, with some

items focusing on mindfulness (“Concentrating on what is happening to me as it happens sharpens my senses”), some on flow (“To be absorbed in the present makes me feel vital”), and some on both (“I feel connected to my environment when I just stay in the moment”). Respondents rated on a 6-point Likert-type scale how often each item is true to them with answer options ranging from 1 = “(almost) never” to 6 = “always”.

Balanced time perspective scale. The BTPS (Webster, 2011) consists of 28 items, 14 addressing the past and 14 addressing the future. Respondents rate on a 6-point scale how often they experience the content of the items (1 = “(almost) never”; 6 = “always”). Every item connects the addressed time zone (past or future) to the present. Examples of items are “Remembering happier times from my past helps energize me in the present”, concerning the past and “Achieving future dreams is something that motivates me now” concerning the future. The BTPS showed excellent psychometric qualities (Webster, 2011; Webster and Ma, 2013; Webster et al., 2014). Cronbach’s alpha in this study was 0.92 for the past scale and 0.93 for the future scale. Balanced time perspective was operationalized as the deviation from balanced time perspective (DBTP; Stolarski et al., 2011): we defined a score of six, the highest possible mean score as the optimal score (Webster et al., 2014). The DBTP is the sum of the deviations between the empirical and the ideal score per subscale (ideal score minus empirical score). The DBTP indicates the *unbalancedness* of a respondent’s time perspectives composition. Therefore, a negative correlation between the DBTP and another construct represents a positive correlation between BTP and that construct. The aim of the current study is to construe a present factor for the BTPS.

Zimbardo time perspective inventory. The ZTPI (Zimbardo and Boyd, 1999) is a 56-item scale which is constituted by the five subscales of past positive (PP), past negative (PN), present hedonistic (PH), present fatalistic (PF), and future (F). Individuals rate on a 5-point Likert scale how strongly each statement applies to them (1 = very untrue of me, 5 = very true of me). Examples of items are “It gives me pleasure to think about my past” (PP), “Painful past experiences keep being replayed in my mind” (PN), “It is more important for me to enjoy life’s journey than to focus only on the destination” (PH), “My life path is controlled by forces I cannot influence” (PF) and “I believe that a person’s day should be planned ahead each morning” (F). The ZTPI was the product of a continued development over years and it has proven reliability and validity (Bonniwell and Zimbardo, 2004; Sircova et al., 2014; Stolarski et al., 2015; Zimbardo and Boyd, 1999, 2008). Cronbach’s alpha in the present

study was 0.82 for PP, 0.78 for PN, 0.80 for PH, 0.64 for PF, and 0.80 for F. The DBTP for the ZTPI was calculated using the most desirable values for each subscale as suggested by Stolarski et al. (2011) and Zhang et al. (2013a), with PN = 1.95, PP = 4.60, PF = 1.50, PH = 3.90, and F = 4.00. A higher score indicates an unbalanced time perspective.

Swedish flow proneness questionnaire. The SFPQ (Ullén et al., 2011) measures the frequency of flow experiences among three domains of everyday-life (work, maintenance, and leisure time). It consists of 22 items. The items are rated on a Likert scale with answers ranging from 1 = “never” to 5 = “everyday, or almost every day”. Examples of items are: “When you do something at work, how often does it happen that you feel bored?”, “When you are doing household work or other routine chores (e.g. cooking, cleaning, shopping) how often does it happen that it feels as if your ability to perform what you do completely matches how difficult it is?”, “When you do something in your leisure time, how often does it happen that what you do feels extremely enjoyable to do?”. The SFPQ showed construct validity and reliability (Ullén et al., 2011). To calculate the overall flow-proneness score for participants who are employed, the work-, maintenance-, and the leisure time score were added and divided by three; for participants without employment, the maintenance and the leisure time score were added and divided by two. In the present study Cronbach’s alpha was 0.85 for the overall scale, 0.81 for the work subscale, 0.66 for the maintenance subscale, and 0.79 for the leisure time subscale.

Five facet mindfulness questionnaire – short form. The FFMQ-SF (Bohlmeijer et al., 2011) is a short form of the FFMQ (Baer et al., 2006). It measures five facets of mindfulness. Examples of items are “I notice visual elements in art or nature, such as colors, shapes, textures, or patterns of light and shadow” (observe), “I’m good at finding words to describe my feelings” (describe), “I find myself doing things without paying attention” (reverse-coded) (acting with awareness), “I disapprove of myself when I have illogical ideas” (reverse-coded) (nonjudging of inner experience), “When I have distressing thoughts or images, I just notice them and let them go” (nonreactivity to inner experience). The FFMQ is rated on a 5-point scale ranging from 1 = “never or very rarely true” to 5 = “very often or always true”. Cronbach’s alpha in the present study was 0.88 for the overall FFMQ-SF, 0.85 for the describe scale and the nonjudging scale, 0.81 for the acting with awareness scale, and 0.75 for the nonreacting and the observe scale.

Mental health continuum – short form

The MHC-SF (Lamers et al., 2010) assesses three domains of mental health, which are emotional wellbeing, psychological wellbeing, and social wellbeing. The rating instruction for the whole scale is: “During the last month, how often did you feel...”. Three items measure emotional wellbeing (e.g. “happy”), five items measure social wellbeing (e.g. “that you had something important to contribute to society”) and six items measure psychological wellbeing (e.g. “that you had experiences that challenged you to grow and become a better person”). Answer options range from 1 = “never” to 6 = “every Day”. The MHC-SF showed good reliability and validity (Keyes et al., 2008; Lamers et al., 2010). Cronbach’s alpha in this study was 0.88 for the whole scale, 0.81 for EW and PW, and 0.73 for SW.

Marlowe–Crowne social desirability scale – short form A

We used the 11-item short form A (Reynolds, 1982) derived from the MC-SDS (Crowne and Marlowe, 1960) to assess social desirability bias. Examples of items are “It is sometimes hard for me to go on with my work if I am not encouraged” and “I sometimes feel resentful when I don’t get my way”. Answer options are 1 = “true” and 2 = “false”. A socially desirable answer counted for one point per item. The scores were added, resulting in an overall score between 0 and 11. Cronbach’s alpha was 0.64.

Analyses

First, 45 missing values on single items were imputed with the mean sample score per item. Principal components analyses with varimax rotation were conducted to select items and explore the factor structure of the present-eudaimonic scale as well as to determine the factor structure of the complete BTPS (past-, future-, and present-scale). Cronbach’s alpha was calculated for the present-eudaimonic scale to investigate its internal consistency. A Pearson correlation with the social desirability scale was calculated. Pearson correlations were used to investigate the relations of time perspectives with mindfulness, flow-proneness and positive mental health. Hierarchical regression analyses will be used to assess whether the eudaimonic present scale has a unique contribution to mindfulness, flow, and positive mental health that is stronger than that of the other time perspectives. Zero-order and partial correlations of BTPS-BTP and ZTPI-BTP with positive mental health were calculated. Steiger’s Z was used to test

whether the correlation of the BTPS-BTP with positive mental health was significantly higher than that of the ZTPI-BTP with positive mental health.

Results

The present-eudaimonic scale

One hundred and fifty-one participants completed all 23 items of the initial present-eudaimonic scale. The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.87, indicating that the data allows component analysis. Bartlett’s test of sphericity was significant, $\chi^2 = 1295.08$ (253), $p < 0.001$, indicating that the data is sufficiently normally distributed. A principal components analysis (PCA) with varimax rotation showed that six components had an eigenvalue over 1.0. Ten items had their highest loadings on the first component (the present-eudaimonic component) and all were above 0.50. A second PCA was conducted with the 10 items with the highest loadings on the first component, resulting in one extracted component with loadings between 0.59 and 0.80. The Kaiser–Meyer–Olkin measure was 0.89, Bartlett’s test of sphericity was significant, $\chi^2 = 570.68$ (45), $p < 0.001$. Table 1 presents the loadings, means, and standard deviations of the 10 items, which constitute the present-eudaimonic scale. Cronbachs’ alpha for the 10-item scale was 0.88. The present-eudaimonic scale did not correlate with the social desirability scale ($r = 0.07$, $p = 0.41$). We thus found the hypothesized one-dimensional, reliable scale that is not related to social desirability bias.

Table 2 shows the intercorrelations among time perspectives as well as the correlations of time perspectives with mindfulness facets, flow domains and positive mental health subscales. Concerning validity the present-eudaimonic scale was positively correlated with mindfulness ($r = 0.52$, $p < 0.001$) and overall flow-proneness ($r = 0.47$, $p < 0.001$), as hypothesized. Although the scale had the highest correlation with overall mindfulness among time perspectives, it had a weaker correlation with the mindfulness facets non-judging and nonreacting than the ZTPI past negative scale. Regarding flow, the positive eudaimonic scale had the strongest correlation with overall flow-proneness. It did not correlate with the maintenance subscale, unlike the ZTPI past positive and future scale and the BTPS past scale. It also had a weaker correlation with the work flow scale than the ZTPI past negative and the BTPS past scale. Last, the present-eudaimonic scale was positively correlated with positive mental health ($r = 0.56$, $p < 0.001$). It also had the highest correlations with positive mental health as well as with the subscales among all time perspective scales.

Table 1. Present-eudaimonic scale. Loadings, means, and standard deviations ($n = 151$).

	Item	Loading	M	SD
1.	I feel a certain peace and harmony when I stay focused on the flow of the present	0.80	4.38	1.16
2.	I feel connected to myself when I stay in the moment	0.80	4.47	1.07
3.	To be absorbed in the present makes me feel vital	0.75	4.32	1.01
4.	I get a sense of meaning or purpose when I just stay in the moment	0.72	4.25	1.02
5.	Concentrating on what is happening to me as it happens, inspires me	0.71	4.33	1.12
6.	Being in the present helps me appreciate what I have	0.67	4.54	1.11
7.	Concentrating on what is happening to me, as it happens, sharpens my senses	0.63	4.67	1.02
8.	I feel connected to my environment when I just stay in the moment	0.63	4.51	0.99
9.	I feel revitalized after staying focused on the present	0.62	4.14	0.95
10.	Things come into focus for me when I stay in the now	0.59	4.40	0.92

As different time perspectives showed some significant relations among each other (Table 2), we conducted three hierarchical regression analyses to assess the unique relations of these different time perspectives with mindfulness, flow-proneness, and positive mental health. Table 3 shows the results of these analyses. We first entered the seven existing ZTPI and BTPS scales and then added the new present-eudaimonic scale. The seven ZTPI and BTPS scales explained 29% of variance in mindfulness. Adding the present-eudaimonic scale resulted in a significant increase of explained variance of 9%. The present-eudaimonic scale had the strongest regression coefficient (0.34). The seven ZTPI and BTPS scales explained 25% of variance in flow-proneness. Including the present-eudaimonic scale in the second model added another 8% in explained variance. The positive eudaimonic perspective again has the strongest regression coefficient and is the only scale that remains significantly related to flow proneness. The existing time perspective scales explained 36% of the variance in positive mental health. Adding the present-eudaimonic scale accounted for a significant

Table 2. Intercorrelations of time perspectives and time perspectives' correlations with facets of mindfulness, domains of flow-proneness, and aspects of positive mental health (*n* = 131).

	Present eudaimonic	Present hedonistic	Present fatalistic	Past negative	Past positive	BTPS Past	BTPS Future	ZTPI Future
Present eudaimonic	1							
Present hedonistic	0.37***	1						
Present fatalistic	-0.03	0.23*	1					
Past negative	-0.32***	-0.11	0.14	1				
Past positive	0.25**	0.27**	-0.06	-0.30***	1			
BTPS Past	0.25**	0.15	-0.15	-0.21*	0.61***	1		
BTPS Future	0.11	0.01	-0.30***	-0.01	0.15	0.45***	1	
ZTPI Future	-0.13	-0.37***	-0.32***	0.15	-0.11	0.07	0.37***	1
Mindfulness total	0.52***	0.34***	-0.17	-0.45***	0.19*	0.19*	0.12	-0.14
Mindfulness describe	0.37***	0.25**	-0.19*	-0.27**	0.19*	0.20*	0.18*	0.04
Mindfulness actaware	0.35***	0.24**	-0.17	-0.28**	0.14	0.15	0.06	0.02
Mindfulness nonjudging	0.43***	0.22*	-0.12	-0.51***	0.12	0.06	-0.06	-0.29**
Mindfulness observe	0.34***	0.30***	-0.04	0.00	0.11	0.08	0.16	-0.11
Mindfulness nonreact	0.21*	0.11	-0.03	-0.41***	0.08	0.15	0.09	-0.06
Flow total	0.47***	0.25**	-0.20*	-0.31***	0.30***	0.35***	0.31**	0.11
Flow work	0.40**	0.19	-0.33**	-0.51***	0.34**	0.51***	0.39**	0.07
Flow maintenance	0.16	-0.03	-0.14	-0.08	0.20*	0.18*	0.17	0.27**
Flow leisure	0.54***	0.42***	-0.12	-0.30***	0.24**	0.24**	0.19*	-0.06
PMH Total	0.56***	0.35***	-0.07	-0.41***	0.38***	0.42***	0.30**	0.03
PMH EW	0.52***	0.40***	0.00	-0.32***	0.32***	0.31***	0.15	-0.06
PMH SW	0.42**	0.20*	-0.03	-0.29**	0.35***	0.35***	0.19*	0.00
PMH PW	0.54***	0.36***	-0.13	-0.42***	0.31***	0.40***	0.39***	0.10

p* < 0.05; *p* < 0.01; ****p* < 0.001.

PMH: positive mental health; EW: emotional well-being; SW: social well-being; PW: psychological well-being.

Table 3. Hierarchical regression analyses with time perspectives predicting mindfulness, flow-proneness and mental health ($n = 131$).

	Step 1 β	Step 2 β
<i>Model 1. Dependent variable: Mindfulness</i>		
Past negative	-0.39***	-0.31***
Past positive	-0.06	-0.06
BTPS Past	0.03	-0.01
BTPS Future	0.07	0.06
ZTPI Future	-0.05	-0.05
Present hedonistic	0.33***	0.22*
Present fatalistic	-0.18*	-0.16*
Present eudaimonic		0.34***
Adjusted R^2	0.29	0.38
<i>Model 2. Dependent variable: Flow proneness</i>		
Past negative	-0.23**	-0.15
Past positive	0.08	0.08
BTPS Past	0.11	0.07
BTPS Future	0.16	0.15
ZTPI Future	0.14	0.15
Present hedonistic	0.26**	0.15
Present fatalistic	-0.11	-0.10
Present eudaimonic		0.33***
Adjusted R^2	0.25	0.33
<i>Model 3. Dependent variable: Positive mental health</i>		
Past negative	-0.33***	-0.24**
Past positive	0.08	0.08
BTPS Past	0.18	0.14
BTPS Future	0.16	0.14
ZTPI Future	0.14	0.14
Present hedonistic	0.31***	0.19*
Present fatalistic	0.03	0.04
Present eudaimonic		0.37***
Adjusted R^2	0.36	0.47

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

increase of 11% explained variance in positive mental health and showed the highest regression coefficient. Our hypothesis about the convergent validity of the present-eudaimonic scale with mindfulness, flow, and positive mental health and the divergent validity from the other time perspective scales is thus supported.

The modified BTPS

A principal components analysis with varimax rotation was conducted in order to explore the factor structure of the whole BTPS. The number of components was set to three. The Kaiser–Meyer–Olkin measure of sampling adequacy was 0.86. Bartlett's test of sphericity was significant, $\chi^2 = 3118.439$ (703), $p < 0.001$. Table 4 presents the loadings of the items of the modified BTPS (including past and future subscales and present-eudaimonic scale). The items had their highest loading on the expected factor and low cross-loadings on other factors. The present-eudaimonic scale was weakly correlated with the past scale ($r = 0.25$, $p < 0.01$) and was not significantly correlated with the future scale of the BTPS ($r = 0.11$, *ns*). The past and the future scale were significantly correlated ($r = 0.45$, $p < 0.001$).

The DBTP coefficient of the modified BTPS and the ZTPI were compared in their relation to positive mental health. As hypothesized, the zero-order correlation of BTPS-DBTP with positive mental health ($r = -0.59$, $p < 0.001$) was higher than that of the ZTPI-DBTP ($r = -0.45$, $p < 0.001$). The difference proved to be significant (ZH = -2.08 , $p = 0.037$). Partial correlations were calculated to assess the relations of DBTP with positive mental health, controlling for the other operationalization of DBTP. After partialing out ZTPI-DBTP, the correlation of the BTPS-DBTP with positive mental health remained moderate ($r = -0.48$, $p < 0.001$). Controlling for BTPS-DBTP, the partial correlation of ZTPI-DBTP with positive mental health was clearly weaker ($r = -0.21$, $p = 0.018$). Our hypothesis about the stronger relation of the modified BTPS with positive mental health than that of the ZTPI is supported.

Discussion

The purpose of this article was to create a measure for a positive eudaimonic relation to the present, thereby emphasizing the central relevance of a positive present orientation for wellbeing in general and for a BTP in particular. Based on the literature on mindfulness and flow, a 10-item present-eudaimonic scale was developed. The scale showed good psychometric properties: one-dimensional factor structure, good internal consistency,

Table 4. BTPS. Loadings ($n = 131$).

	Future	Past	Present
Looking ahead really gets me energized	0.81	0.13	-0.06
I enjoy thinking about where I'll be a few years from now	0.78	0.19	-0.12
I have many future aspirations	0.77	0.12	0.13
I enjoy thinking about goals that are yet to come	0.76	0.08	0.07
I look forward to my future	0.73	0.16	0.03
Imagining my future makes me feel optimistic	0.73	0.21	0.06
I have some very specific future goals	0.72	0.04	0.05
I think about my future development	0.71	0.04	0.05
Achieving future dreams is something that motivates me now	0.68	0.29	0.08
Anticipating my later life fills me with hope	0.68	0.34	-0.10
Creating a positive future is something I think about	0.66	-0.01	0.23
Planning for the future gives me a sense of purpose in the present	0.66	0.28	-0.10
I get excited when I think about the future	0.63	0.10	0.03
The kind of person I want to be is brought into focus when I think about the future	0.57	0.20	0.09
I feel my past is a resource upon which I can draw	0.04	0.77	0.10
Seeing how the pieces of my past come together gives me a sense of identity	0.07	0.77	0.07
The joy of life is strengthened for me when I recall the past	0.09	0.77	0.11
Evaluating earlier times in my life gives me a sense of hope in the present	0.19	0.75	0.15
Tapping into my past is a source of comfort to me	0.11	0.75	0.12
I get a renewed sense of optimism when I remember earlier life experiences	0.12	0.74	0.12
Remembering happier times from my past helps energize me in the present	0.07	0.69	0.12
Reliving earlier times in my life helps give me a sense of direction	0.26	0.67	-0.02
The pattern of my life makes more sense to me when I reflect on my past	0.02	0.66	0.05

(continued)

Table 4. Continued.

	Future	Past	Present
Reminiscing about my past gives me a sense of purpose in life	0.37	0.64	0.05
Reviewing events from my past helps give my life meaning	0.40	0.63	0.01
Recalling previous successes helps motivate me now	0.33	0.63	0.01
Reflecting on earlier triumphs helps me identify personal strengths	0.30	0.62	0.12
I feel that important memories fill my past	0.11	0.57	0.20
I feel connected to myself when I stay in the moment	-0.01	0.08	0.80
To be absorbed in the present makes me feel vital	-0.17	0.04	0.77
I feel a certain peace and harmony when I stay focused on the flow of the present	-0.06	0.20	0.77
I get a sense of meaning or purpose when I just stay in the moment	0.11	0.05	0.73
Concentrating on what is happening to me as it happens, inspires me	0.13	0.09	0.71
Concentrating on what is happening to me, as it happens, sharpens my senses	0.17	-0.04	0.67
Being in the present helps me appreciate what I have	0.05	0.14	0.67
I feel connected to my environment when I just stay in the moment	0.10	0.07	0.62
Things come into focus for me when I stay in the now	0.03	0.11	0.62
I feel revitalized after staying focused on the present	-0.04	0.16	0.61
Explained total variance	20.45%	19.23%	13.60%

Note: Items which load on their respective factors are bolded.

no social desirability bias, good convergent validity (significant correlations with mindfulness, flow, and positive mental health) and good divergent validity (unique and strongest relationships to mindfulness, flow, and positive mental health among all time perspectives). The modified BTPS, including the new present-eudaimonic scale, had a three-dimensional factor

structure with acceptable cross-loadings. BTP as measured with the modified scale had a stronger relation to positive mental health than BTP derived from the ZTPI.

The present-eudaimonic scale was derived from mindfulness and flow. It showed indeed the strongest relationships with the overall mindfulness and flow scales among all time perspectives. At the same time, the relations with mindfulness and flow were low enough to conclude that the new scale does not measure the same construct. In this respect, the formulation in an affect-laden time perspective seems successful.

Our hypothesis that a healthy present perspective, representing the only time zone that we experience directly and permanently, is related to positive mental health was supported. Consistent with prior research on wellbeing, different time perspectives were related to aspects of mental health (Zimbardo and Boyd, 1999; Boniwell et al., 2010; Drake et al., 2008; Webster and Ma, 2013; Webster et al., 2014; Zhang and Howell, 2011; Zhang et al., 2013a, 2013b). However, the present-eudaimonic time perspective explained additional variance in positive mental health over and above these other time perspectives. Moreover, it had the strongest relation with positive mental health among all time perspectives. These findings provide evidence for the validity of the present-eudaimonic scale and support the notion that a healthy present perspective, which goes beyond interpreting the present as being associated to hedonism and fatalism, could even be more important for human flourishing than positive relations to the future and to the past.

These assumptions are further supported by our analyses regarding BTP. We used both the modified BTPS and the ZTPI to operationalize a BTP. Earlier studies had shown that balanced time perspectives derived from either scale were related to wellbeing (e.g. Boniwell et al., 2010; Webster et al., 2014). This was the first study to directly compare these two measures of BTP. The operationalization that added the present-eudaimonic perspective to the BTPS showed a stronger relationship with positive mental health than the one based on the ZTPI. The significant partial correlations showed that both operationalizations explain some unique variance in positive mental health. However, the unique variance explained by the modified BTPS was larger than that of the ZTPI. These findings support the notion that mindfulness (Seema and Sircova, 2013) and flow are essential components of a BTP. Further research on the divergent validity of both scales seems warranted concerning their relations to other intra- and interpsychological aspects important for the promotion or maintenance of flourishing, such as wisdom, emotional intelligence, empathy, and self-compassion. It should be mentioned that it is not our intention to replace the ZTPI. Since the scales measure different aspects of time perspective, our

results indicate that both scales have their unique *raison d'être* and can complement each other by contributing to a growing pool of time perspective scales, from which researchers can choose the most proper combination of scales regarding their research objectives.

As the sample was not large and included many students, our study provides an initial validation of the new present-eudaimonic scale and the modified BTPS. Further validation is even more necessary, because the participants did not fill out the questionnaires in their own language, even though they had a good command of the English language. Therefore, further research on the validity of the scales in other samples is needed. To increase external validity, our sample included participants from diverse life backgrounds instead of being limited to young student populations. Future studies should use larger, more representative samples in order to allow confirmatory factor analysis and to investigate measurement invariance across categories such as gender and age. Furthermore, other psychometric qualities of the scales still need to be established, such as test–retest reliability and sensitivity to intercultural differences. A last limitation is that the present study completely relied on self-report data. Future research could employ more objective measures of functioning (e.g. mental health diagnoses) or peer ratings as an additional source of information (Zhang et al., 2013b).

The present study provides an initial validation of the present-eudaimonic scale as well as of the modified BTPS that contains scales for measuring affectively positive relations to the past, present, and future. These new and promising instruments can enrich the psychology of time perspective as well as positive psychology by adding a healthy, eudaimonic perspective on the present.

Finally, the study may have strong consequences on the future versus present debate. In the literature, future and present orientations are commonly described as being mutually exclusive: people are *either* present *or* future oriented (Mischel et al., 1989; Strathman et al., 1994). Future orientation is seen as being associated with the ability to delay gratification (Mischel et al., 1989), pro-environmental (Joireman et al., 2001) and health behaviors (Joireman et al., 2012), academic achievement (Peters et al., 2005), etc., while present orientation represents the opposite respectively. We think that this view of the relation between present and future perspective is not generally valid and we suggest that the often evident, adverse relation between present and future perspective cannot be ascribed to characteristics of a present orientation as such, but rather to the specific (hedonic and fatalistic) kinds of present orientation that were assessed in previous studies (cf. Sheldon and Vansteenkiste, 2005; Sobol-Kwapinska, 2009; 2013; Seema and Sircova, 2013), and we expect that the present-eudaimonic scale is positively related to concepts/constructs theoretically

associated with consideration of (long-term) future consequences such as appreciation of nature's beauty (Diessner et al., 2008) and nature connectedness (Mayer and Frantz, 2004), meaning in life/interconnectedness (Delle Fave and Soosai-Nathan, 2014), a resonance-based relation with the social, cultural, and natural environment (Rosa, 2012: 9–10) and individual sense of interbeing (Hanh, 1987).

If future studies support these assumptions, the present-eudaimonic scale embodies a possibility to reconcile present and future time perspective, implying far-reaching theoretical and practical consequences for personality, developmental, social, clinical, and environmental psychology.

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