Flourishing in the Now: Creation and initial Validation of a Present-Eudaimonic Time Perspective Scale.

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Abstract

INTRODUCTION: Despite increasing attention for Time Perspective (TP) research and its theoretical and philosophical implications, no operationalization of a present-positive time perspective scale has been conducted yet. The present, as the only time-zone, which we experience directly as well as permanently, can be assumed to be at least as relevant as past and future concerning subjective well-being and the operationalization of a Balanced Time Perspective (BTP). The present-directed concepts of Mindfulness and Flow, both essential elements of positive psychology, and intrinsically linked to mental well-being were analysed and combined to conceptualize the Present-Eudaimonic time perspective scale (PE), which will complete the Balanced Time Perspective Scale (BTPS) by supplementing a present-factor. METHOD: 130 participants filled in a pre-version of PE, the BTPS (TP), the ZTPI (TP), the FFMQ-SF (mindfulness), the SFPQ (flow-propensity), the MHC-SF (mental health/MH) and a social desirability instrument. BTP was operationalized using the Deviation from Balanced Time Perspective (DBTP) coefficient. RESULTS: The final PE scale showed good psychometric properties including internal consistency ($\alpha = .88$), factor structure of PE and the new BTPS, and concurrent validity (significant correlations with mindfulness [r=.51], flow-propensity [r=.46] and present-hedonistic [r=.38]). PE explained an additional 12,4 percent of variance in MH beyond the other time perspective scales. The DBTP of the BTPS significantly correlated stronger with MH (r=-.59) than the DBTP of the ZTPI (r=-.42) (Z_H=2.06, p=0.039). CONCLUSIONS: The creation of a present-positive time perspective scale fills a great gap in the assessment of TP; the new BTPS is a promising alternative operationalization of BTP.

Keywords

Time Perspective, Balanced Time Perspective, Scale Development, Mindfulness, Flow, Flourishing

Introduction

Whether time is a fundamental, observer-independent, universe-inherent structure of existence (Newton) or 'merely' a fundamental structure of our perceiving of the universe (Kant), or something between (Einstein) is less important from a psychological viewpoint, since, whether past, present and future exist ontologically does not affect our subjective perception of them as qualia. *Temporality* is a crucial predisposition for probably all strategies of making sense of the world that we can imagine; irrespective of the question whether or not past, future or present possess own ontological reality independent of human, subjective reality.

Since the hard science of physics and the methodology of mathematics can neither provide us with knowledge concerning the observer-independent structure of time, nor with answers whether past, present and future exist observer-independently, it seems adequate to choose a phenomenological approach to deal with psychological time. Husserl (1917/1991) identified the analysis of time as the 'most difficult of all phenomenological problems' (p. 286), since every phenomenon has an aspect of temporality (see also Heidegger, 1927/2006).

Time Perspective psychology, which is concerned with operationalizing individual relations to past, present and future and investigating their psychological and behavioural implications and consequences, has become a flourishing field of modern psychology. Nonetheless, no attempt to operationalize an exclusively positive relation to the present has been conducted yet. With this in mind, the present study aims at the creation and initial validation of an instrument, which is intended to measure a positive or eudaimonic relation with the present.

Firstly, we will point out some difficulties concerning the operationalization of psychological present. Subsequently, since, a positive relation to the present addresses the very relation between consciousness and experience, we will shortly introduce Husserl's conception of consciousness, which describes this relation. After briefly describing the concepts of time perspectives, balanced time perspective, mindfulness, flow, eudaimonia and positive mental health, we will present the newly developed present-eudaimonic scale.

Scientifically operationalizing present-related aspects of reality is to some extent paradoxical, since the paradigm of science demands the pursuit of objectivity, however, *the present* is by definition a perceptual and therefore subjective phenomenon. Alike experiencing being conscious, experiencing 'presentness' is an inevitable precondition of our subjective sense of being, which makes it probably impossible to externalize and objectify the present, since these actions would presuppose separating ourselves from the present. In contrast to the present, according to direct experience, we are separated from the past and the future, which enables us to mentally objectify them.

In psychology, much research is available concerning the various biopsychosocial causes/triggers for recalling one's past (reminiscence) and possible positive as well as negative psychological

consequences of individually differing manners and modes of reminiscing (for an overview see: Webster, Bohlmeijer, & Westerhof, 2010). Regarding the *functions* of reminiscence, Webster et al. (2010) state that 'by remembering salient information, we connect with others, feel good about ourselves, overcome negative emotions, render current problems manageable, and consolidate a developing autobiographical narrative and sense of identity, among myriad other purposes' (p. 543).

Whereas consequences of past events appear empirically manifested within the experience of the present situation, the future can be characterized as being empirically empty. The possibility of physically interacting with objects deriving from another time-zone than the present is not given for entities located in the future, which makes the future a more abstract concept than the past. However, despite the 'empirical emptiness' of the future, its (mental) presence (future consciousness) is a central factor of the human condition (Lombardo, 2006). Sools and Mooren (2012) state that 'without too much exaggeration, one could say that the future is always and everywhere' (p. 207), since crucial aspects of our life, such as education or psychological development, as well as essential emotions, such as hope or desire presuppose the future.

As Webster (2013) points out, past and future share some common characteristics, such as 'indefinite extension, cognitive construction, and even neuroanatomical circuits and pathways' (p. 53). Another similarity between psychological past and future is that they are not constantly obligatory parts of subjective experience. It is possible to be present-focused without simultaneously being mentally directed on the past or the future, which gives the opportunity to compare various effects of current degrees of 'pastness' and 'futureness'.

Objectifying the present, however, is not as easily accomplished since its givenness is the source and inevitable precondition of *all* experience, which implies that we can neither imagine experiencing 'unpresentness', nor are we capable of creating (mental) distance between ourselves and the present. While we reminisce, we reconstruct a present we experienced, while we anticipate the future, we imagine a possible present. Thus, from the subjective standpoint, the past and the future can be described as mental constructs of an alternative present, made in the present. Concerning happiness, Zimbardo and Boyd (2008) point out that 'whether you look for happiness in the past, the present or the future, you *experience* happiness only in the present. A happy event may have occurred in the past, but you call it to mind in the present. […] Thoughts of the past and the future can bring you happiness, but they do so by bringing happiness into the present state of mind' (pp. 253-254). The present is the only time zone, which phenomenologically 'possesses full reality, and our existence lies in it exclusively' (Schopenhauer, 1890/1999, p. 19). *Ontologically*, all three might be mind-made illusions (Barbour, 1999; Hameroff, 2003).

Husserl's contemporaries Clay (1882) and James (1890) coined the term 'suspicious present', which refers to the subjectively perceived present (also conscious present or psychological

present). What we perceive, we perceive as present. However, the 'real present', defined as a singular 'point' cannot be the object of subjective experience (James, 1890). When we perceive something as 'now moving', our 'now' includes memories of the very near past, since motion is build-up of successive parts of more than one 'real' present (Broad, 1923). Therefore, in opposition to the 'real present', which would be a single cut-out of reality, elusive of being perceived by a conscious agent, the psychological present is an interval.

The shortest inter-stimulus-interval detectable by humans seems to be about 20-40ms (Exner, 1875; Hirsh, & Sherrick, 1961). Research trying to define the 'length' of the psychological present frequently refers to a length of about two to three seconds (Michon, 1978; Fraisse, 1984; Pöppel, 1997). As Michon (1978) points out the perceived length of the present is highly variable and depends on the number and sequential structure of events in it.

Differences in perceptions of the 'length' of the present might be related to the actual conditions of the circumstances of the situation, as well as to the current state of the perceiving agent. The term *intentionality*, as defined by Husserl, describes a process that involves the perceiving subject and a perceived (imagined or physically existing) object. It refers to the act of perception and the ability of the mind to form representations, to be about, to represent, or to stand for things or properties (Pierre, 2010). Intentionality does not refer to 'intention', but to the directedness of the consciousness, implying that consciousness is always consciousness of something. The perceiving consciousness and the perceived object form a context, or 'totality', in which the subject projects meaning into the object *by perceiving it*. The components of intentionality according to Husserl (1913/1983) are *noesis* and *noema*. Noesis, translated as e.g. 'understanding', 'intellect' or 'awareness' (Strauss, 1989) represents the perceiving part of consciousness, the 'I-pole' (Lyotard, 1991; p. 55) or 'encountering' (Embree, 2004), while noema represents the content-part of consciousness, the 'object-pole', or 'thing-as-encountered', respectively. The appearance, gestalt and effect of a perceived thing is determined by various conditions involved in its process of being encountered. Intentionality refers to the relation between the mental and the perceivable and defines them as one inseparable context, characterizing consciousness, which contains one or more intentionalities in a given moment, as an intertwined network of correlating noeses and noemata. Physical things are perceivable, but also 'objects' deriving from imagination or belief. Concerning an empirical example, a glass half-filled with water might be seen as half-full by one observer and as half-empty by another. Whether the glass 'is' half-full or half-empty is determined by the present intentionality, which depends on various aspects of the state of the perceiving agent (noesis), as well as on e.g. culturally or biographically predetermined noema-aspects, such as the *functionality* of the thing-as-encountered. In the glass-example there is at least some sensual and conceptual information (a fluid in a container). Concerning *time* as noema we have less empirical facts. Therefore, we assume, the intentionalities involved in the genesis of one's relations to time are at least as manifold, and inter-culturally and inter-individually divergent as the intentionality involved in perceiving and interpreting the glass.

Husserl's conception of consciousness, described as a network of intentional correlations of noeses and noemata, can be helpful for a basal understanding of how individual perceptions of past, future and present (past-, future- and present-as-encountered) constitute the basis for past-, future- and present-as-conceptualized, so that subsequently meaningful relationships between the subject and these concepts can develop. The observer begins to put meaning into mental concepts of time by perceiving time-related phenomena. Once established this relational framework between a person and time-related aspects of her reality, could, manifested as sustaining or recurring noesis-noema-correlations, represent individually-specific relations to the concepts of present, past and future, which form the basis for the individual's composition of time perspectives.

Do we *perceive* time? Albeit 'time' is elusive to direct experience in most of its aspects, there is some time-related knowledge we can extract from experience: according to direct experience, time is a 'continuous unidirectional change', implying 'appearance and disappearance of objects and events' (Boroditsky, 2000, p. 3). This definition of time reflects the notion that we cannot perceive time as an autonomous phenomenon. Instead the 'perception' of time is dependent on the perception of (the change, appearance and disappearance of) other phenomena. Although we cannot draw conclusions yet about how these time-related phenomena we perceive relate to a possibly existing 'time an sich', what we can do is analyse our mental representations of past, future and present and the psychological connotations attached to them. Our mental representations of time and time-related phenomena form the basis for our individual 'time-personality', which can be described by cognitive, emotional and behavioural facets that constitute and manifest our relations to past, present and future. The individual time-personalities are composed of several flexible 'traits' called time perspectives. Time perspectives probably shape individual emotions and behaviour by broadening and/or narrowing people's momentary *thought-action repertoire*, equivalent to positive and negative emotions as Fredrickson (1998) depicts their effect.

Since, phenomenologically, time is not an autonomous phenomenon, to be meaningful our conceptualization of and our relation to time draw from another fundamental experiential category of our reality, namely space, which is suggested by research concerning historical development of languages (Sweetser, 1991) and human language-acquisition (Clark, 1973; Clark, 1974; Bowerman, 1983; Casasanto, Fotakopoulou, & Boroditsky, 2010). Psychophysical experiments show that spatial perceptions can interfere with temporal assumptions (Casanto & Boroditsky, 2008) and vice versa (Cai & Connell, 2012). Thus, time-related and space-related noemata can interfere with and therefore co-constitute each other. Hence, although time is not an independently perceivable phenomenon, temporality is an aspect of every phenomenon (Husserl, 1917/1991), which probably even co-constitutes our experience of space. Therefore, temporality and our subjective relations to aspects of time, can be assumed to have paramount relevance for the accruement of subjectively perceived order and meaning of life, and it is not astonishing that time perspective is announced to be a 'foundational process in both individual and societal

functioning' (Zimbardo & Boyd, 1999, p. 1271) and as 'one of the most powerful influences on virtually all aspects of human behavior' (Boniwell & Zimbardo, 2003). Probably, the individual relation to the present is the core factor of time perspective, since, 'experiencing' the past (reminiscing) and 'experiencing' the future (anticipating) takes place in the present. Therefore, phenomenologically, the past and the future are imbedded in the present.

Time Perspective

Lewin (1951) defined time perspective as 'the totality of the individual's views of psychological future and psychological past existing at a given time.' (p. 75, cited in Zimbardo & Boyd, 1999). The most widely used instrument for the assessment of time perspectives is the *Zimbardo Time Perspective Inventory* (ZTPI: Zimbardo & Boyd, 1999), which consists of five sub scales measuring affective impact of one's past (past positive and past negative), coping style regarding future-related responsibilities (future) and propensity to apply a hedonistic (present hedonistic) and a fatalistic attitude (present fatalistic) toward the present.

Zimbardo and Boyd (1999) introduced the concept of an optimal or *Balanced Time Perspective* (BTP), which is a relatively specific composition of time perspectives, characterized as 'most psychologically and physically healthy for individuals and optimal for societal functioning' (p. 1285), and Zimbardo (2002) states that 'in an optimally balanced time perspective, the past, present and future components blend and flexibly engage, depending on the situation's demands and our needs and values' (p. 62). Zimbardo suggested operationalizing BTP by having specific score patterns 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. Zimbardo later specified the most desirable scores per sub-scale to a certain value (Stolarski, Bitner, & Zimbardo, 2011). Sub-scales of the ZTPI, and/or the construct of a BTP (which is a particular composition of scores) predictably correlate with various constructs, including specific behaviour (Zimbardo & Boyd, 1999; Epel, Bandura, & Zimbardo, 1999), mood (Stolarski, Matthews, Postek, Zimbardo, & Bitner, 2013), subjective well-being (Zhang, Howell, & Stolarski, 2013; Boniwell, Osin, Linley, & Ivanchenko, 2010), happiness (Drake, Duncan, Sutherland, Abernethy, & Henry, 2008), mindfulness (Drake et al., 2008), life-satisfaction (Zhang & Howell, 2011), emotional intelligence (Stolarski et al., 2011) and aspects of psychopathology (Van Beek, Berghuis, Kerkhof, & Beekman, 2011).

Webster (2011) suggested an alternative instrument for the measurement of BTP, since, although BTP was mentioned in Zimbardo & Boyd (1999), its assessment was not the intention of the creation of the ZTPI. Webster (2011, p. 116) points out that 'many ZTPI items reflect time management rather than affective concerns,' ('I believe that a person's day should be planned ahead each morning'), 'whereas items from the BTPS are strongly affect-laden' ('Achieving future dreams is something that motivates me now'). The purpose of the present study is to

develop a present-factor for the BTPS, which contributes to the existing sub scales by supplementing a present-scale, which is intended to represent a healthy relation to the present that is also assumed to foster positive relations to the past and the future.

By now there is no exclusively healthy present-related time perspective scale available. The present hedonistic scale measures propensity of being hedonistic, therefore, it is associated to risky behaviour and can, if at all, merely partly, be used to indicate eudaimonic aspects of happiness. The present fatalistic scale might be a proper indicator for a present-negative time perspective, however, firstly its present-directedness is arguable and secondly it strongly interferes with religious or spiritual assumptions about after-life, the time-zone Boyd and Zimbardo (1997) refer to as 'transcendental-future'. E.g. Buddhists tend to score higher on the negatively connoted present fatalistic scale than non-Buddhists (Zimbardo & Boyd, 2008, p. 174), while 'Buddhist thinking' might actually have positive or neutral impact on the subject's life. This indicates that the present fatalistic scale is not interculturally valid, when being related to mental health.

For the conceptualization of a positive relation to the now, two concepts central to positive psychology were used in the present study, since both are present-oriented concepts, which are intrinsically linked to mental well-being: 1) Mindfulness is a mode of consciousness, which is directed on the present moment and characterized by a non-judgmental, open awareness of awareness itself and of internal and external sensations (e.g. Kabat-Zinn, 1990), accompanied by 'enhanced sensory processing, and reflective awareness of sensory experience' (Kilpatrick et al., 2011). 2) Flow is a state of being 'absorbed in the now', which is referred to as 'optimal functioning' (Csikszentmihalyi, 1990).

Mindfulness

Mindfulness is an old term for an attribute or mode of consciousness, which is central to Buddhist psychology (e.g. Bodhi, 1984; Hanh, 1976, 1998). In Buddhist system, mindfulness is *one* element of the noble eightfold path or middle way. Since it has been imported to western psychology in 1979 (Kabat-Zinn, 1982), it keeps inspiring theoretical and practical research (e.g. Grossman, Niemann, Schmidt, *&* Walach, 2004; Keng, Smoski, & Robins, 2011). Mindfulness is a mode of consciousness that is characterized by high and non-judgemental awareness of all sensual, cognitive, emotional and other phenomena that are present in the moment. Bishop et al. (2004) state that one part of the definition of mindfulness is 'the self-regulation of attention, which involves sustained attention, attention switching, and the inhibition of elaborative processing' (p. 233). Mindfulness can additionally be categorized as a strategy of coping with emotions. An accepting attitude towards everything that is present in the moment creates space between the 'self' and one's mental concepts. This 'space' can then be utilized to re-evaluate the perceived gestalts and effects of subjective-reality-constituting entities such as anxieties and

problems, which impeding impact on one's life decreases when they are treated as if they were children or old friends (Hanh, 2012). Evidence suggests that mindfulness is linked to increased subjective well-being and self-regulated behaviour (Keng, Smoski, & Robins, 2011; Brown & Ryan, 2003), enhanced attention abilities and working memory capacity (Chiesa, Calati, & Serretti, 2011), and improved psychological flexibility (Fledderus, Bohlmeijer, Smit, & Westerhof, 2010).

Mindfulness is furthermore effective in the treatment of depression (e.g. Williams, 2008), anxiety (e.g. Hofmann, Sawyer, Witt, & Oh, 2010) addiction (Breslin, Zack, & McMain, 2006; Westbrook et al., 2011), psychosis, borderline personality disorder and suicidal behaviour (Ivanovski & Malhi, 2007).

In comparison to traditional Cognitive Behavioural Therapy's approach of changing the *content* of dysfunctional thoughts, the (therapeutic) mindfulness approach increases meta-cognitive awareness and therefore changes the (general) *relation* to the thought. By fostering conscious, non-judging moment to moment experience rather than elaborative and conceptual thinking, automatic affective processing is reduced (Farb, Anderson, & Segal, 2012). This opens up possibilities for exploring one's personal manners of relating to physical and abstract objects in general and to time in particular. A mindful state can be assumed to be helpful while exploring one's noeses and noemata associated to past and future, and their interplay, since mindfulness provides 'freedom from reflexive conditioning and delusion' (Shapiro & Carlson, 2009, p. 556). Concerning developing a positive relation to the present, as well as a BTP, mindfulness can play a major role in the first step, which is beginning to understand the mechanisms involved in the genesis, development and consequences of one's own time perspectives.

Flow

The concept of *flow* refers to an experience during which people are fully involved with, or absorbed by, a completely intrinsically motivated (autotelic) activity in the present moment. Csikszentmihalyi (1975; 1990) defines flow as an 'optimal state of mind'. According to Csikszentmihalyi, flow experiences occur when the challenge level of an activity as well as the own skill level (are high and) match each other. Necessary conditions among others are further that the task has clear goals and provides immediate satisfaction (autotelic). Subjective experiences that frequently accompany the state of flow are disappearance of the self-consciousness, altered sense of time and acting with deep but effortless, voluntary involvement that removes everyday life worries from the mental focus. 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 past and future have on emotional and

cognitive functioning of the psyche in the present can be assumed to be minimized. Flow can occur during almost every kind of situation.

Csikszentmihalyi and colleagues confirmed the positive impact of flow by studying flow experiences of rock-climbers, dancers, chess masters, composers (Csikszentmihalyi, 1975), flow in the aesthetic experience (Csikszentmihalyi & Robinson, 1990), and flow in business contexts (Csikszentmihalyi, 2003) among others. Evidence shows that flow is associated with life satisfaction (Asakawa, 2010; Bassi, Steca, Monzani, Greco, & Delle Fave, 2013) and psychological well-being (Steele & Fullagar, 2009; Bassi et al., 2013).

Relation between Mindfulness and Flow

Mindfulness, partly defined as a mode of increased self-awareness could be interpreted as being contradictory with the state of flow, since flow is associated to loss of self-consciousness. Therefore, whether mindfulness and flow are likely to occur simultaneously remains unclear. However, it is arguable whether a voluntary (probably conscious) switch to a flow-state, originating from the starting point of a mental state which is accompanied by increased mindfulness should be more arduously induced than (probably unconsciously) switching to a flow-state from a mental state which is not explicitly linked to mindfulness. 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, Glass, & Arnkoff, 2009) and that high mindfulness is correlated with aspects of flow such as challenge-skill balance, clear goals and concentration, as well as with the ostensibly contradicting aspects of flow: action-awareness merging and loss of self-consciousness (Kee & Wang, 2008).

From a Buddhist perspective there is probably no contradiction between mindfulness and flow, since all things are inter-connected, all things are in constant change (Impermanence, anicca) everything is the product of each other, and therefore no thing has an independent self. In Buddhist psychology accepting this perspective can lead to the end of fear of death and finally to the end of all suffering. With the words of Hanh (2002), ‘Impermanence is looking at reality from the point of view of time. No self is looking at reality from the point of view of space. They are two sides of reality. No self is a manifestation of impermanence and impermanence is a manifestation of no self’ (pp. 46-47). In traditional mindfulness the central relevance of the 'no self' (anatta), the insight that the existence of a separate self is an illusion, which is associated to the concept of Inter-being (Hanh, 1988; Erber, 2011), which refers to the intertwinedness or oneness of all things, suggests that the state of flow, which can be characterized as a state of increased resonance between the ‘inner’ and the ‘outer’ world (with decreased self-consciousness), is not contradictory, though probably actually integrated in the mindfulness-concept. In this perspective mindfulness can probably be seen as the component of perception and flow as the component of doing.

Assuming that mindfulness and flow support and supplement each other, rather than being antagonists, we decided to use these concepts as starting-points for the conceptualization and operationalization of a positive relation to the present or a *present-eudaimonic* time perspective.

Eudaimonia

Eudaimonia means living life in a 'full and deeply satisfying way' (Deci & Ryan, 2008), including personal expressiveness and self-realization (Waterman, 1993). The basis of cultivating eudaimonia, which traces back to Aristotle, is being true to and living in accordance to one's inner self (daimon), identifying and manifesting one's virtues and talents, and using them for greater goods like the welfare of one's (social) environment, including one's direct associates, local communities and mankind in general (Peterson, Ruch, Beermann, Park, & Seligman, 2007). The tradition of eudaimonia was among others carried on by Rogers in his theory of the fully-functioning person (1951) and in Maslow's concept of self-actualization (1970). Eudaimonia is often contrasted with hedonia or hedonism (Waterman, 1993; Ryan, & Deci, 2001), which in modern terms is characterized by the presence of positive affect and the absence of negative affect (Deci & Ryan, 2008), which are likely to be dependent on the presence or absence of materialistic or action opportunities (Kraut, 1979). As Westerhof and Bohlmeijer (2010) point out, eudaimonic well-being is not about avoiding things that are perceived as negative, instead the eudaimonic approach tries to integrate positive as well as negative aspects of life, in order to find ways to cope with them, and ideally to use them for personal growth (p. 99). Given the complexity of the concept of eudaimonia, operationalizing hedonic well-being (e.g., Kahnemann, Diener, Schwartz, 1999) is more easily accomplished than making eudaimonic happiness measurable. While hedonic happiness merely relies on short-term emotional well-being, eudaimonia further presupposes psychological, social, and probably spiritual well-being. Ryan, Huta and Deci (2008) characterized eudaimonia by being associated to four motivational concepts: Pursuing intrinsic goals and values for their own sake, behaving autonomously, being mindful, and behaving in ways that satisfy basic psychological needs. Waterman (1990) pointed out that flow among other concepts relates to or is even synonymous with eudaimonia.

Nowadays, in positive psychology, the term *flourishing* is probably more prominent than the term *eudaimonia*, although both terms refer to the same multifaceted concept of well-being. Fredrickson and Losada (2005) define flourishing as 'to live within an optimal range of human functioning, one that connotes goodness, generativity, growth, and resilience' (p. 678).

Positive mental health

A narrow perspective on mental health, which reduces it to the absence of mental disorder has dominated psychology for a long time and can still be met nowadays. However, this limited view, which neglects crucial parts of mental health, such as well-being, meaningfulness, talent, personal responsibility, quality of relationships and wisdom among many other aspects, has frequently been challenged by social scientists (e.g. Jahoda, 1958; Seligman & Csikszentmihalyi, 2000; Maddux, 2009; Westerhof & Bohlmeijer, 2010). Keyes (2002; 2005) showed that positive mental health (including emotional, psychological and social well-being) is a psychological dimension, distinct from mental illness, and therefore cannot be reduced to being the opposite of mental illness on a single measurement continuum. Keyes (2002) developed the Mental Health Continuum (MHC), and the Mental Health Continuum-Short From (MHC-SF: Keyes et al., 2008), an instrument covering the assessment of emotional well-being, which is also important for the tradition of hedonistic happiness, as well as psychological well-being (optimal individual functioning) and social well-being (optimal societal functioning). Therefore, the MHC(-SF) can be seen as a proper instrument for the assessment of great parts of eudaimonia/flourishing.

Purpose

The purpose of the present study is to create an instrument, measuring a ‘eudaimonic relation’ to the present. The lack of a ‘present-positive’ scale in the BTPS as well as in the ZTPI is a big shortcoming in the field of Time Perspective. By creating and validating a positive present scale this gap will be filled and construct validity of the concept of a balanced time perspective (BTP) will increase.

Both mindfulness and flow represent an engaged, present-focused manner of approaching one's (inner and outer) environment and are associated to profound and sustainable, eudaimonic subjective well-being. Therefore, a combination of these two concepts seems predestined to fill the gap of an adequate positive present scale in time perspective assessment. Integrating mindfulness into time perspective assessment is not a new idea. Zimbardo and Boyd (2008) stated that with a mindful present perspective, which they called *present holistic*, ‘[...] the past, the present, the future, the physical, the mental, and the spiritual elements in life are not separate but closely interconnected [...]’ (p. 110). They did not include the present holistic time perspective into the ZTPI, since they considered it to be ‘less common in western than eastern cultures’ and to be ‘rather vague in its components’ (p. 53).

Besides its intrinsic relation to mental health, mindfulness might further play an important role in holding a BTP: Bishop et al. (2004) state that mindfulness can partly be seen as ‘the self-regulation of attention, which involves sustained attention, attention switching, and the inhibition of elaborative processing’ (p. 233). Hypothetical ‘absolute mindfulness’ can probably be seen as a

state of consciousness which is aware of the constitution of all present noemata, as well as of consciousness itself. On a less extreme level, the skill of autonomously, voluntarily handling one's attention might be helpful for developing a BTP by being more profoundly aware of the 'situation's demands and our needs and values' so that the 'past, present and future components' are more likely to 'blend and flexibly engage' (quotes from Zimbardo, 2002, p. 62).

Since the present is the only time-zone, which we experience directly and permanently, a positive relation with the now can be assumed to be a core-factor of human flourishing. Finally, the present eudaimonic scale will be merged with the past and future sub-scales of the current BTPS, resulting in three sub-scales that are intended to match Seligman's and Csikszentmihalyi's quote (2000) 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)' (p. 5).

Hypotheses

1 – The initial item-set of 23 items, intended to measure a eudaimonic relation with the present, can be reduced to a half as long scale with good general psychometric properties, including clear factor structure, good internal consistency, and no social desirability bias. Furthermore, the whole BTPS (past-, future-, and present-scale) will have a clear factor structure with three components (past, future and present).

2 – Since the concepts of eudaimonia and hedonic happiness overlap, the present-eudaimonic scale and the present-hedonistic scale will be positively correlated. Due to the central relevance of mindfulness and flow for the conceptualization of the present-eudaimonic time perspective, the present-eudaimonic scale will be more strongly associated with mindfulness and flow than all other time perspectives.

3 – Since eudaimonic happiness includes emotional, psychological and social well-being, in comparison to hedonic happiness, which merely covers (short-term) emotional well-being, the present-eudaimonic time perspective will be more strongly associated with positive mental health than the present-hedonistic scale. Given the central relevance of the present, as compared to the past and the future, the present-eudaimonic time perspective will be more strongly associated with positive mental health than the positive past- and future-scales from the ZTPI (PP) and the BTPS (past and future).

4 – BTP measured with the full BTPS (existing BTPS plus the present-eudaimonic scale) will have a stronger association with positive mental health than BTP measured with the ZTPI, which lacks a positive present scale.

Method

Item generation and pilot test

In total about 30 items were created. Jeffrey Dean Webster provided an initial item-pool of 15 items (which in the end constituted the lion's share of the final present-eudaimonic scale). Another 15 items were created by the other researchers. Two pre-tests, one in Canada and one in the Netherlands, with about 50 participants in total, mainly psychology students, were conducted to reduce items.

Eleven participants scored a pen and paper version of a 26 item pre-version of the present-eudaimonic scale while thinking aloud. Four respondents were female, seven male. Participants differed in age between 24 and 68 with a mean age of 36. Five respondents were Dutch, six were German. Two participants have been diagnosed with a psychological disorder and were therefore successfully treated in the past. Two participants are mindfulness professionals, working with MBSR- and MBCT-techniques and two are flow professionals, one giving workshops in Tai-Chi and one giving workshops in rap. The other participants were art- and psychology students, one student of museology and one pensioner. The interviews were technically based on the Three-Step Test-Interview (TSTI: Hak, van der Veer, Jansen, 2008). These interviews took between 15 and 70 minutes (M=42), which is a mean time of approximately 1,5 minutes per item. All interviews were recorded and analysed. Three items were rejected due to comparability related issues or individual differences in interpretation of specific wordings. The interpretation of the wording “being in the now” turned out to be heavily dependent on particular situations respondents thought of. Hence, respondents frequently stated that how they score an item is dependent on which concrete situation they think of. Therefore the response format was changed from 1= Strongly Disagree, 2= Disagree, 3= Slightly Disagree, 4= Slightly Agree, 5= Agree, 6 = Strongly Agree into 1= (almost) never; 2= very rarely; 3= rarely; 4= sometimes; 5= often; 6= very often (always).

Participants

Participants were gathered among students of the University of Twente, as well as by snowball sampling techniques. Therefore, participants had a more diverse life-background, compared to a sample exclusively recruited from a student population. Eighty-six women and 68 men completed a 23-item version of the present-eudaimonic scale. Participants ranged in age from 17 to 58 with a mean-age of 25,52. Forty-three participants were native Dutch speakers and 97 were native German speakers. Nineteen participants had other native languages, which were among others Russian, Greek, English and French. Psychology students were granted the opportunity to receive extra class credit for participation.

Measures

Present-Eudaimonic Scale. The present-eudaimonic scale (PE) was created to complete the BTPS by adding a present-factor. In contrast to the present-hedonistic time perspective of the ZTPI, which relation to (mental) health is ambiguous, the present-eudaimonic time perspective was designed to be exclusively positively correlated to mental health. The items are intended to predict mindfulness and flow-propensity. All items are expected to correlate with mindfulness and flow-propensity, with some items focusing on (applied) mindfulness ("*Concentrating on what is happening to me as it happens sharpens my senses*"), some on flow-propensity ("*To be absorbed in the present makes me feel vital*") and some on mindfulness and flow ("*I feel connected to my environment when I just stay in the moment*"). Other examples of items are "*I feel a certain peace and harmony when I stay focused on the flow of the present*" and "*I feel connected to myself when I 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 =' very often (always)'. The pre-version contained 23 items.

Balanced Time Perspective Scale. The BTPS (Webster, 2011) consists of 28 items, 14 addressing the past and 14 addressing the future. It has been suggested as an alternative to the ZTPI for measuring a balanced time perspective (BTP). The respondents rate on a six-point scale how true each statement is to them. In the present study the respondents rated on a 6-point scale how often each item is true to them (1 = '(almost) never'; 6 = 'very often (always)'). Every item connects the addressed time zone (past or future) to the present. Examples of items are '*Reminiscing about my past gives me a sense of purpose in life*', '*Remembering happier times from my past helps energize me in the present'*, concerning the past and '*I enjoy thinking about where I'll be a few years from now*' and '*Achieving future dreams is something that motivates me now*' concerning the future. The BTPS showed excellent psychometric qualities (Webster, 2011). Cronbach's alpha in this study was .92 for the past scale and .93 for the future scale.

Zimbardo Time Perspective Inventory. The ZTPI (Zimbardo & 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 five-point Likert scale how strongly each statement applies to them (1 = very untrue of me, 5 = very true of me). 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 shown reliability and validity (e.g. Zimbardo & Boyd, 1999; Boniwell & Zimbardo, 2004). The ZTPI is the most widely used instrument for time perspective assessment. Cronbach's alpha in the present study was .82 for PP, .78 for PN, .80 for PH, .64 for PF and .80 for F.

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, an initial question whether the respondent is professionally active and 7 items, recurring for each domain respectively. The items are rated on a Lickert scale with answers ranging from 1 = 'Never' to 5 = 'Everyday, or almost everyday'. 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*?'. Each of the 7 different items is intended to measure one of the following flow dimensions: subjective sense of concentration, challenge-skill balance, explicit goals, clear feedback, sense of control, lack of boredom and enjoyment. The SFPQ showed construct validity and reliability (Ullén et al., 2011). To calculate the overall flow-propensity score for participants with work the work-, maintenance-, and the leisure time score were added and divided by three; for participants without work, the maintenance and the leisure time score were added and divided by two. In the present study Cronbach's alpha was .85 for the overall scale, .81 for the work subscale, .66 for the maintenance subscale and .79 for the leisure time subscale.

Five Facet Mindfulness Questionnaire - Short Form. The FFMQ-SF (Bohlmeijer, ten Klooster, Fledderus, Veehof, & Baer, 2011) is a short form of the FFMQ (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). It measures five facets of mindfulness: observing, describing, acting with awareness, non-judging of inner experience and non-reactivity to inner experience. 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) (non-judging 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 with answer options ranging from 1 = 'never or very rarely true' to 5 = 'very often or always true'. Construct validity, reliability and the five-factor structure of the FFMQ were repeatedly confirmed among different cultures (Baer et al., 2006; Baer et al., 2008; Deng, Liu, Rodriguez, & Xia, 2011; Lilja et al., 2011; Veehof, ten Klooster, Taal, Westerhof, & Bohlmeijer, 2011; Hou, Wong, Lo, Mak, & Ma, 2013). Cronbach's alpha in the present study was .88 for the overall FFMQ-SF, .85 for the describe scale and the non-judging scale, .81 for the acting with awareness scale, and .75 for the non-reacting and the observe scale.

Mental Health Continuum – Short Form. The MHC-SF (Keyes et al., 2008) is the short form of the MHC-LF (Keyes, 2002). It assesses three domains of mental health, which are emotional well-being (EW), psychological well-being (PW) and social well-being (SW). The rating instruction for the whole scale is: '*During the last month, how often did you feel…*'. Three items

measure EW, five items measure SW and six items measure PW. Examples of items are: '*happy*' (EW), '*that you had something important to contribute to society'* (SW) and *'that you had experiences that challenged you to grow and become a better person*' (PW). Answer options range from 1 = 'Never' to 6 = 'Every Day'. The MHC-SF showed reliability and validity (Keyes et al., 2008; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2010; Westerhof & Keyes, 2010). Cronbach's alpha in this study was .88 for the whole scale, .81 for EW and PW, and .73 for SW.

Marlowe-Crowne Social Desirability Scale. We used seven items from the MC-SDS (Crowne & Marlowe, 1960) to assess social desirability bias. We used the items '*It is sometimes hard for me to go on with my work if I am not encouraged*', *'I sometimes feel resentful when I don't get my way', 'No matter who I'm talking to I'm always a good listener', 'There have been occasions when I took advantage of someone', 'I am always courteous even to people who are disagreeable', 'I have never been irked when people expressed ideas very different from my own', 'I have never deliberately said something that hurt someone's feelings'*. Answer options are 1 = 'true' and 2 = 'false'. Some answers were reverse scored, so that option 1 represented the 'true' answer and option 2 the social desirable option. The scores were added, resulting in an overall score between 7 and 14. Cronbach's alpha was .57, indicating poor internal consistency.

Analyses

Rotated (varimax) Principal Components Analyses (PCAs) were conducted to select items and explore the factor structure of the present-eudaimonic scale (PE), as well as to determine the factor structure of the complete BTPS (past-, future-, and present-scale). Cronbach's alpha was calculated for the PE scale to investigate its internal consistency and the Pearson correlation with the selection of the Marlowe-Crowne scale items was calculated to examine whether the PE scale is vulnerable to social desirability biased answering. Pearson correlations and hierarchical regression analyses were utilized to investigate the relations between time perspectives (especially the PE scale) and mindfulness, flow-propensity and positive mental health.

BTP was calculated using the *Deviation* from *Balanced Time Perspective* (DBTP: Stolarski, Bitner, & Zimbardo, 2011; Zhang, Howell, & Stolarski, 2013) coefficient. The DBTP indicates the 'unbalancedness' of a respondent's time perspectives composition, therefore, a negative correlation between the DBTP and another concept represents a positive correlation between BTP and that concept and a positive correlation represents a negative relation. The DBTP for the ZTPI was calculated using the most desirable values for each subscale with PN= 2.1, PP= 3.67, PF= 1.67, PH= 4.33, F= 3.69. These values were taken from Zimbardo's webpage 'theTimeparadox.com', which can be assumed to provide the most up-to-date information. The DBTP for the BTPS was calculated, with defining the mean score of 6, the highest possible mean score, as the most desirable score for each sub-scale. Pearson correlations between the DBTPs

and mindfulness, flow, and positive mental health were calculated. Steiger's Z was utilized to test whether the correlation of the DBTP of the BTPS with positive mental health was significantly higher than the correlation of the DBTP of the ZTPI with positive mental health. Hierarchical regression analyses were conducted to explore whether the DBTP of the BTPS explains additional variance in positive mental health beyond the DBTP of the ZTPI and reverse.

Results

Hypothesis 1 – The initial item-set of 23 items, intended to measure a eudaimonic relation with the present, can be reduced to a half as long scale with good general psychometric properties, including clear factor structure, good internal consistency, and no social desirability bias. Furthermore, the whole BTPS (past-, future-, and present-scale) will have a clear factor structure with three components (past, future and present).

Factor structure of the present-eudaimonic scale

153 participants completed all 23 items of the initial present-eudaimonic scale. A rotated (varimax) Principal Components Analysis (PCA), based on eigenvalues was conducted in order to explore the components structure of the data. The Kaiser-Meyer-Olkin measure of sampling adequacy was .87, indicating that the data allows components analysis. Bartlett's Test of Sphericity was highly significant, $\chi^2 = 1295.08$ (253), $p < .001$, indicating that the data is sufficiently normally distributed. Six components were extracted. Ten items had loadings on the first component (the present-eudaimonic component) above .5. These items had in total seven cross-loadings higher than .3 on other components. In all of these cases the highest loading was on the first component. 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 .58 and .80. See Table 1 for loadings, means, standard deviations and communalities of the 10 items, which will constitute the present-eudaimonic scale.

Table 1

Present-eudaimonic Scale. Loadings, Means, Standard Deviations and Communalities.

	Loading	M	SD	Extraction
1 – I feel connected to myself when I stay in the moment	.80	4.46	1.07	.63
2 – I feel a certain peace and harmony when I stay focused on the flow of the present	.79	4.38	1.15	.63
3 – To be absorbed in the present makes me feel vital	.75	4.32	1.01	.56
4 – I get a sense of meaning or purpose when I just stay in the moment	.73	4.25	1.02	.53
5 – Concentrating on what is happening to me as it happens, inspires me	.71	4.33	1.13	.50
6 – Being in the present helps me appreciate what I have	.67	4.55	1.11	.44
7 – Concentrating on what is happening to me, as it happens, sharpens my senses	.64	4.66	1.02	.41
8 – I feel connected to my environment when I just stay in the moment	.64	4.49	1.02	.40
9 – I feel revitalized after staying focused on the present	.62	4.14	.94	.38
10 – Things come into focus for me when I stay in the now	.58	4.41	.91	.33

NOTE. N=153.

Reliability and social desirability

Cronbachs' alpha for the 10-item scale was .88, 95% CI, (.85, .91). In terms of social desirability, the present-eudaimonic scale did not correlate with the selection of items from the Marlowe-Crowne scale, [$r(129) = -.02$, $p = .80$].

Factor structure of the whole BTPS

129 participants scored every item of the present-, past- and future-scale of the BTPS. A rotated (varimax) PCA 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 .81. Bartlett's Test of Sphericity was highly significant, $\chi^2 = 3164.536$ (903), $p < .001$. See Table 2 for loadings, means, standard deviations and communalities of the BTPS items. The PE scale was weakly correlated with the past scale of the BTPS, [$r(136) = .20$, $p < .05$] and was not significantly correlated with the future scale of the BTPS, [$r(135) = .10$, *ns*].

Table 2

BTPS. Loadings, Means, Standard Deviations and Communalities.

	Factor 1	Factor 2	Factor 3	Mean	SD	Extraction
Looking ahead really gets me energized	**.80**	.13	-.06	4.20	1.06	.66
I enjoy thinking about goals that are yet to come	**.79**	.08	.04	4.61	1.05	.66
I have many future aspirations	**.79**	.09	.14	4.64	.98	.63
I enjoy thinking about where I'll be a few years from now	**.78**	.18	-.11	4.16	1.30	.64
I look forward to my future	**.75**	.16	.07	4.76	.97	.59
Imagining my future makes me feel optimistic	**.73**	.19	-.02	4.36	1.10	.56
I have some very specific future goals	**.70**	.04	.01	4.58	1.20	.50
Anticipating my later life fills me with hope	**.70**	.33	–.11	4.27	1.07	.61
Achieving future dreams is something that motivates me now	**.69**	.29	.09	4.63	1.11	.57
Creating a positive future is something I think about	**.67**	.00	.24	4.94	.86	.51
Planning for the future gives me a sense of purpose in the present	**.67**	.28	–.04	4.66	1.09	.53
I think about my future development	**.66**	.02	.07	4.71	.89	.44
I get excited when I think about the future	**.61**	.05	.05	4.55	.98	.37
The kind of person I want to be is brought into focus when I think about the future	**.59**	.16	.00	4.53	1.08	.37
Seeing how the pieces of my past come together gives me a sense of identity	.06	**.77**	.06	4.14	1.24	.60
I feel my past is a resource upon which I can draw	.04	**.76**	.09	4.24	1.13	.59
The joy of life is strengthened	.02	**.76**	.10	3.78	1.08	.59

for me when I recall the past						
Tapping into my past is a source of comfort to me	.09	**.76**	.03	3.71	1.06	.59
Evaluating earlier times in my life gives me a sense of hope in the present	.18	**.74**	.12	3.75	1.16	.59
I get a renewed sense of optimism when I remember earlier life experiences	.08	**.72**	.13	3.82	1.05	.55
Remembering happier times from my past helps energize me in the present	.02	**.70**	.14	3.98	1.25	.51
Reliving earlier times in my life helps give me a sense of direction	.19	**.66**	–.10	3.94	1.08	.48
Reminiscing about my past gives me a sense of purpose in life	.36	**.63**	.05	3.89	1.19	.53
Recalling previous successes helps motivate me now	.34	**.63**	.06	4.54	1.16	.52
Reviewing events from my past helps give my life meaning	.43	**.62**	–.09	4.18	1.18	.57
The pattern of my life makes more sense to me when I reflect on my past	.08	**.62**	.03	4.02	1.18	.39
Reflecting on earlier triumphs helps me identify personal strengths	.26	**.62**	.10	4.62	.83	.46
I feel that important memories fill my past	.16	**.60**	.23	4.69	1.08	.43
I feel connected to myself when I stay in the moment	–.03	.06	**.78**	4.53	1.02	.61
I feel a certain peace and harmony when I stay focused on the flow of the present	–.06	.21	**.77**	4.43	1.13	.64
To be absorbed in the present makes me feel vital	–.19	.02	**.75**	4.33	.99	.60
I get a sense of meaning or purpose when I just stay in the moment	.10	.00	**.70**	4.29	.99	.50

Concentrating on what is happening to me as it happens, inspires me	.06	.05	**.68**	4.35	1.07	.47
Being in the present helps me appreciate what I have	.07	.17	**.67**	4.57	1.14	.49
Concentrating on what is happening to me, as it happens, sharpens my senses	.11	–.10	**.62**	4.75	.94	.41
Things come into focus for me when I stay in the now	.06	.10	**.62**	4.41	.91	.40
I feel connected to my environment when I just stay in the moment	.09	.04	**.61**	4.52	.96	.38
I feel revitalized after staying focused on the present	–.03	.15	**.58**	4.12	.93	.36

NOTE. N=129.

Summary (hypothesis 1)

The PE scale has a clear factor structure, good internal consistency and no significant correlation with the selection of items from the Marlowe-Crowne Social Desirability scale. The full BTPS has a clear factor structure with acceptable cross-loadings.

Validity

Hypothesis 2 – Since the concepts of eudaimonia and hedonic happiness overlap, the present-eudaimonic scale and the present-hedonistic scale will be positively correlated. Due to the central relevance of mindfulness and flow for the conceptualization of the present-eudaimonic time perspective, the present-eudaimonic scale will be more strongly associated with mindfulness and flow than all other time perspectives.

Concerning concurrent validity, PE was positively correlated with the present hedonistic scale (PH) [$r(127) = .38$, $p < .001$], with mindfulness [$r(131) = .51$, $p < .001$], and overall flow-propensity [$r(130) = .46$, $p < .001$]. As hypothesized, as can be seen in Table 3, PE had the highest correlations with overall mindfulness and flow-propensity among all time perspectives. A hierarchical regression analysis with all existing time perspective scales from the ZTPI and the BTPS were conducted to predict mindfulness. The existing seven ZTPI and BTPS scales were entered in the first step. A significant model emerged, $F(7, 98) = 7.709$, $p = .000$, explaining 30,9 % of variance in mindfulness. As can be seen in Table 4, the second model including PE, $F(8, 97) = 11.400$, $p = .000$, explained 44,2 % of variance in mindfulness. A hierarchical regression

analysis with all existing time perspective scales from the ZTPI and the BTPS were conducted to predict flow-propensity. The existing seven ZTPI and BTPS scales were entered in the first step. A significant model emerged, F (7, 97) = 5.299, p = .000, explaining 22,4 % of variance in flow-propensity. As can be seen in Table 5, the second model including PE, F (8, 96) = 6.245, p = .000, explained 28,7 % of variance in flow-propensity.

Hypothesis 3 – Since eudaimonic happiness includes emotional, psychological and social well-being, in comparison to hedonic happiness, which merely covers (short-term) emotional well-being, the present-eudaimonic time perspective will be more strongly associated with positive mental health than the present-hedonistic scale. Given the central relevance of the present, as compared to the past and the future, the present-eudaimonic time perspective will be more strongly associated with positive mental health than the positive past- and future-scales from the ZTPI (PP) and the BTPS (past and future).

The present-eudaimonic scale was positively correlated with positive mental health [r(131) = .56, p < .001]. As can be seen in Table 3, PE had the highest correlation with positive mental health among all time perspective scales. A hierarchical regression analysis with all existing time perspective scales from the ZTPI and the BTPS were conducted to predict positive mental health. The existing seven ZTPI and BTPS scales were entered in the first step. A significant model emerged, F (7, 98) = 8.182, p = .000, explaining 32,4 % of variance in positive mental health. As can be seen in Table 6, the second model including PE, F (8, 97) = 11.666, p = .000, explained 44,8 % of variance in positive mental health.

Table 3

Intercorrelations of Time Perspectives and Time Perspective's correlations with (facets of) Mindfulness, (aspects of) Positive Mental Health and (domains of) Flow-propensity.

	PE	PH	PF	PN	PP	BTPS P	BTPS F	ZTPI F
PE	1							
PH	.38***	1						
PF	-.02	.22*	1					
PN	-.36***	-.14	.16	1				
PP	.25**	.27**	-.06	-.32***	1			
BTPS P	.20*	.14	-.20*	-.25**	.64***	1		
BTPS F	.10	.04	-.29**	-.02	.14	.42***	1	
ZTPI F	-.12	-.36***	-.30**	.13	-.09	.04	.38***	1
MF Total	.51***	.31***	-.18*	-.47***	.17*	.19*	.12	-.09
MF Describe	.36***	.24***	-.22*	-.28**	.17	.19*	.15	.05
MF Actaware	.34***	.23*	-.14	-.30***	.12	.17	.09	.04
MF Nonjudge	.43***	.23**	-.14	-.53***	.11	.09	-.04	-.27**
MF Observe	.32***	.28**	-.03	-.04	.13	.09	.15	-.09
MF Nonreact	.21*	.14	-.03	-.45***	.04	.14	.08	-.03
Flow Total	.46***	.30**	-.21*	-.31***	.33***	.35***	.30**	.14
Flow Work	.40**	.23	-.32*	-.50***	.33**	.50***	.40**	.08
Flow Main-tenance	.17*	.00	-.12	-.09	.21*	.20*	.18*	.30***
Flow Leisure	.56***	.44***	-.13	-.32***	.24**	.23*	.20*	-.04
PMH Total	.56***	.35***	-.09	-.42***	.37***	.40***	.31***	.07
PMH EW	.52***	.40***	.00	-.33***	.31***	.29**	.16	-.05
PMH SW	.42***	.22*	-.05	-.31***	.34***	.35***	.20*	.01
PMH PW	.53***	.32***	-.14	-.41***	.30**	.37***	.40***	.15

NOTE. * $p < .05$. ** $p < .01$. *** $p < .001$. PE: Present Eudaimonic; PH: Present Hedonistic; PF: Present Fatalistic; PN: Past Negative; PP: Past Positive; BTPS P: BTPS Past; BTPS F: BTPS Future; ZTPI F: ZTPI Future. MF: Mindfulness; PMH: Positive Mental Health (EW: Emotional Wellbeing; SW: Social Wellbeing; PW: Psychological Wellbeing).

Table 4

Hierarchical Regression Analysis. Independent Variables: Time Perspectives. Dependent variable: Overall Mindfulness.

		Model 1			Model 2	
	SE B	t	β	SE B	t	β
PN	.072	-.4.885	-.425***	.068	-3.766	-.308***
PP	.088	-.908	-.104 ns	.080	-1.689	-.176 *ns*
BTPS P	.078	.316	.038 ns	.070	.754	.082 *ns*
BTPS F	.068	.833	.084 ns	.061	.651	.059 *ns*
ZTPI F	.097	-.052	-.005 ns	.087	-.173	-.016 *ns*
PH	.105	4.088	.388***	.098	3.031	.269**
PF	.091	-1.714	-.157	.082	-2.024	-.167*
PE				.063	4.936	.411***
Adjusted R^2		.309			.442	
F		7.709			11.400	

NOTE. N=105. * p < .05. ** p < .01. *** p < .001. PN: Past Negative; PP: Past Positive; BTPS P: BTPS Past; BTPS F: BTPS Future; ZTPI F: ZTPI Future; PH: Present Hedonistic; PF: Present Fatalistic; PE: Present Eudaimonic.

Table 5

Regression Analysis. Independent Variables: Time Perspectives. Dependent variable: Flow-propensity.

		Model 1			Model 2	
	SE B	t	β	SE B	t	β
PN	.067	-2.394	-.223*	.067	-1.552	-.144 *ns*
PP	.081	.864	.106 *ns*	.078	.450	.053 *ns*
BTPS P	.071	.796	.102 *ns*	.068	1.082	.133 *ns*
BTPS F	.062	1.096	.118 *ns*	.060	.989	.102 *ns*
ZTPI F	.089	2.205	.239*	.085	2.231	.232*
PH	.097	2.945	.298**	.097	2.090	.211*
PF	.084	-.611	-.060 *ns*	.080	-.680	-.064 *ns*
PE				.062	3.096	.292**
Adjusted R^2		.224			.287	
F		5.299			6.245	

NOTE. N=104. * p < .05. ** p < .01. *** p < .001. PN: Past Negative; PP: Past Positive; BTPS P: BTPS Past; BTPS F: BTPS Future; ZTPI F: ZTPI Future; PH: Present Hedonistic; PF: Present Fatalistic; PE: Present Eudaimonic.

Summary hypothesis 2

The present-eudaimonic scale positively correlated with the present-hedonistic scale. The PE scale clearly had the strongest positive association with mindfulness (correlation and regression analysis) and facets of mindfulness among all time perspectives. While, the PE scale had the strongest correlation with overall flow-propensity, as well as the highest beta in the regression analysis with flow-propensity as dependent variable, it did not correlate stronger with the maintenance sub-scale than the ZTPI future scale, the ZTPI past positive scale, the BTPS future scale, and the BTPS past scale. The BTPS past scale clearly had the strongest correlation with flow-propensity for the work domain and the correlation of the BTPS future scale with the work-scale was as strong as the correlation of the PE scale with the work-scale.

Table 6

Hierarchical Regression Analysis. Independent Variables: Time Perspectives. Dependent variable: Positive Mental Health.

		Model 1			Model 2	
	SE B	t	β	SE B	t	β
PN	.102	-3.908	-.336***	.096	-2.741	–.223**
PP	.125	1.270	.144 *ns*	.114	.722	.075 *ns*
BTPS P	.110	.876	.104 *ns*	.100	1.360	.146 *ns*
BTPS F	.096	2.156	.214*	.087	2.117	.190*
ZTPI F	.137	1.442	.145 *ns*	.124	1.485	.135 *ns*
PH	.149	2.683	.252**	.140	1.546	.136 *ns*
PF	.129	.837	.076 *ns*	.116	.813	.067 *ns*
PE				.089	4.809	.398***
Adjusted R^2		.324			.448	
F		8.182			11.666	

NOTE. N=105. * p < .05. ** p < .01. *** p < .001. PN: Past Negative; PP: Past Positive; BTPS P: BTPS Past; BTPS F: BTPS Future; ZTPI F: ZTPI Future; PH: Present Hedonistic; PF: Present Fatalistic; PE: Present Eudaimonic.

Summary hypothesis 3

The PE scale correlated to (Pearson) and predicted (regression analysis) positive mental health more strongly than all other time perspectives, including PH, as well as the positive past- and future-scales from the ZTPI (PP) and the BTPS (past and future). The model including PE, explained an additional 12,4 % of variance in positive mental health beyond the other time perspective scales.

Balanced Time Perspectives

Hypothesis 4 – BTP measured with the full BTPS (existing BTPS plus the present-eudaimonic scale) will have a stronger association with positive mental health than BTP measured with the ZTPI, which lacks a positive present scale.

As hypothesized, as can be seen in Table 7, BTP, operationalized with the BTPS correlated more strongly with positive mental health (MHC-SF), [$r(118) = -.59$, $p < .001$], than BTP, operationalized with the ZTPI [$r(120) = -.42$, $p < .001$]. The BTPS' correlation with the MHC-SF was significantly higher than the ZTPI's correlation with the MHC-SF, [$Z_H = 2.06$, $p = 0.039$].

Table 7

Pearson Correlations of the DBTPs with Mindfulness, Flow-propensity and Positive Mental Health.

	DBTP ZTPI	DBTP BTPS	MF Total	Flow Total	PMH Total
DBTP ZTPI	1				
DBTP BTPS	.44***	1			
MF Total	-.47***	-.44***	1		
Flow Total	-.44***	-.50***	.49***	1	
PMH Total	-.42***	-.59***	.46***	.61***	1

NOTE. N=108(DBTP ZTPI/DBTP BTPS) to 136(MF Total/PMH Total). *** p < .001. MF: Mindfulness; PMH: Positive Mental Health.

As can be seen in Table 8, two hierarchical regression analyses were performed to test whether BTP measured with the DBTP of the BTPS predicted unique variance in positive mental health beyond the variance explained by BTP measured with the DBTP of the ZTPI and reverse. As can be seen in Table 8, in the first step of the first analysis, BTP, measured with the ZTPI explained 13,1% of variance with F (1, 104) = 16.800, p = .000. BTP, measured with the BTPS, entered in step 2, accounted for an additional 23,1% of variance. In the first step of the second analysis, BTP, measured with the BTPS explained 34,3% of variance. BTP, measured with the ZTPI, entered in step 2, accounted for an additional 0,9% of variance.

Table 8

Hierarchical Regression analyses with DBTPs predicting Positive Mental Health.

	Step 1 β	Step 2 β	Step 1 β	Step 2 β
DBTP ZTPI	-.37***	-.14		-.14
DBTP BTPS		-.53***	-.59***	-.53***
Adjusted R^2	.131	.352	.343	.352
F	16.800	29.547	55.729	29.547

NOTE. N=105. *** $p < .001$.

Summary (hypothesis 4)

The DBTP of the ZTPI could explain hardly any additional variance in positive mental health beyond the DBTP of the BTPS. The DBTP of the BTPS significantly correlated stronger with the MHC-SF than the DBTP of the ZTPI.

Discussion

In the field of time perspective (TP) assessment, there is no scale available, which measures a positive relation with the present. The purpose of the present study was to fill this gap by creating and initially validating a 'present-eudaimonic' time perspective scale (PE). To conceptualize a eudaimonic relation to the present, we draw on the concepts of mindfulness and flow, since both represent present-oriented states of mind and are considered to be associated with positive mental health and eudaimonia/flourishing.

The PE scale showed reliability and validity. Two principal components analyses (PCA) were conducted that produced one factor. A PCA was conducted with all 38 items of the new BTPS, including the past-, the future-, and the present-scale. All past-, future-, and present-items strongly loaded on only one factor respectively, with weak cross-loadings, indicating that three distinct time perspectives are measured by the new BTPS. The past- and the future sub-scale had excellent internal consistency, the PE scale had good internal consistency. Concerning concurrent validity, as hypothesized, the PE scale correlated significantly with mindfulness, flow-propensity and the present-hedonistic scale from the ZTPI.

Since eudaimonia, in contrast to hedonic happiness is not limited to emotional well-being, we assumed the PE scale to correlate stronger with mental health (especially psychological and social well-being) than the present hedonistic scale from the ZTPI, which could be supported. Acknowledging that the present, in opposition to the past and the future, is the only time-zone,

which is always existent in subjective experiencing (Schopenhauer, 1890/1999, p. 19), we assume a positive relation to the present to be at least as relevant for mental well-being as psychological past and future. Therefore, we hypothesized that a positive relation to the present is more strongly associated with positive mental health, than a positive relation to the past and the future. This hypothesis was supported, since the PE scale explained more variance in positive mental health than the other existing time perspective scales included in this study (ZTPI and BTPS).

Given the paramount importance of a positive relation to the present, which is the only time-zone in which we can experience happiness (Zimbardo & Boyd, 2008, pp. 253-254), we hypothesized that the construct of a balanced time perspective (BTP), would more strongly correlate with and predict positive mental health, when its operationalization includes a representation of a positive-present time perspective. This hypothesis was supported, since BTP, operationalized with the BTPS (including the PE scale) correlated significantly stronger with positive mental health and clearly explained more variance in positive mental health than the ZTPI (which lacks a positive-present time perspective).

These results show that the new present factor of the BTPS is a reliable and valid sub-scale and that the BTPS measures three distinct time-zones (past, present and future). The present study was not an attempt to discredit the ZTPI. The ZTPI is a valid and important instrument for the assessment of a broader spectrum of individual time perspective characteristics. Also, although PE had the strongest positive association with mindfulness among time perspectives, in this study the DBTP of the ZTPI correlated slightly stronger with mindfulness than the DBTP of the BTPS, while the DBTP of the BTPS correlated slightly stronger with flow-propensity. However, due to its significantly stronger association with positive mental health, the BTPS is probably the more adequate instrument for the measurement and indication of aspects of human flourishing, including the assessment of BTP.

A weakness of the present study is its small sample size, which relativizes the generalizability of the results. Furthermore, due to problems with the online-survey provider 'Thesistools.com', respondents could skip items, which were labelled as mandatory, which led to missing data. The instrument measuring social desirability bias performed poorly. Hence, it remains possible that the PE scale might be vulnerable to social desirability biased scoring. A strength of the present study is its synthetic character. Bringing together mindfulness and flow, which are central factors of positive psychology, and introducing them into TP assessment, can be an important step for the further development of the field of positive time psychology.

Additionally, a positive individual relation with the present, which was probably rarely addressed as explicitly as in this study, can be assumed to be a core-factor of human flourishing. Furthermore, that an attitude towards the present, which somehow represents the opposite of our ever-accelerating way of living (Rosa, 2005) is associated with mental health, could raise or strengthen doubts concerning the reasonableness of ongoing societal developments. Economy, as

well as society as a whole seems to be strongly short-term future oriented at the expense of the present and the long-term future. Future research will show whether a dominant present-eudaimonic TP is more strongly linked to sustainable behaviour than other TP profiles.

The PE scale has to be further validated, concerning factor structure, test-retest reliability, construct- and intercultural validity and its relation to connatural concepts, such as wisdom. Future research must, by utilizing factor analytical methods on large scale samples, also address the question whether the strong association between the BTPS and positive mental health (measured with the MHC-SF) might partly be the product of conceptual overlap between facets of BTP and facets of positive mental health. It has to be investigated whether a present-based therapy approach, focusing on mindfulness, flow, consciousness and TP might be useful for clinical and positive psychological goals and whether the PE scale can be implemented in the evaluation of existing interventions to assess their effect on individual's relations to the present. To cover the complete range of TP's, a satisfying instrument assessing transcendental TP (addressing the time before and after individual life time) still has to be developed. A re-conceptualisation and re-operationalization of Boyd's and Zimbardo's (1997) transcendental future time perspective construct should, beyond religious assumptions, include individual relations to existentialist notions, such as certainty of death, isolation, absurdity and meaninglessness, and should investigate affective dimensions of these relations. In this context the question of the temporal dimension of the present should be answered individually: is the present structured into units of e.g. two to three seconds? Or is it one big moment lasting from birth to death, and dependent on the individual's assumptions probably beyond death.

Concerning *experiencing* (the present) in general, the perception of things takes place in dependence on the perception of the situational context of the perceived (Husserl, 1913/1983, pp. 197-198). Concerning evidence, which even suggests a co-constitutive relationship between time- and space-related noemata on the very sensual level (Casanto & Boroditsky, 2008; Cai & Connell, 2012), it seems implausible that these kinds of interferences do not happen on higher conceptual levels. It seems unlikely that (subjective) reality-as-encountered is distinguishable into completely independently measurable domains. Instead, *experience* should probably be understood as a process-network of various simultaneously occurring co-related intentionalities (noesis-noema-totalities), which constantly interfere with each other. These co-constitutive intentionalities are not sufficiently definable by situational parameters. Instead, since the *before* also interferes with the now, the individual history of already experienced intentionalities determines the present-moment-network-process of intentionalities as well. Subject-dependent factors like e.g. cultural, socio-economic and social background predetermine in which manner the 'same' situation appears to two different individuals. The gestalt, functionality, aesthetics, connoted normative ethics etc. of things-as-perceived by the perceiving agent (noemata) are predetermined by the perceiving agent's enculturation, which, to a certain degree, makes experience a creative cultural construct. Contemporary artist Olafur Eliasson (2009) introduced the concept of the *Your Engagement Sequence* (YES). YES relativizes the possibility of objective

truth and refers to the subjects' 'responsibility for the configuration of the concrete situation' (p. 19). When scientists could finally reject the dogma of striving after independence from our own subjectivity in order to maximize ostensible objectivity, we could instead integrate YES as a variable in our research formula. Practically this would lead to more transparency in reporting outcomes, providing the reader with valuable information regarding the subject-dependent process of producing theories and research results.

These considerations should be kept in mind when the validity of an attempt to operationalize something as basal and all-embracing as a positive relation to the present is evaluated. Despite philosophical and practical limitations, the present study showed that the present-eudaimonic scale, and the whole BTPS are promising instruments, which can enrich (positive) time psychology and can help broadening the predominant view on psychological present, which is often limited to being associated to hedonism.

References

Asakawa, K. (2010). Flow experience, culture, and well-being: How do autotelic Japanese college students feel, behave, and think in their daily lives? *Journal of Happiness Studies, 11*, 205–223.

Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment, 13*(1), 27-45.

Baer, R. A., Smith G. T., Lykins, E., Button, D., Krietemeyer, J., Sauer, S. et al. (2008). Construct validity of the Five Facet Mindfulness Questionnaire in meditating and nonmeditating samples. *Assessment*, *15*(3), 329-342.

Barbour, J. (1999). The End of Time — The Next Revolution in Physics. Oxford: University Press.

Bassi, M., Steca, P., Monzani, D., Greco, A., Delle Fave, A. (2013). Personality and Optimal Experience in Adolescence: Implications for Well-Being and Development. *Journal of Happiness Studies, 14*(3).

Bishop, S. R., Lau, M., Shapiro, S. L., Carlson, L., & Anderson, N. D. et al. (2004). Mindfulness: A proposed operational definition. *Clinical Psychology: Science and Practice*, *11*, 230–241.

Bodhi, B. (1984). *The noble eightfold path.* Kandy, Sri Lanka: Buddhist Publication Society.

Bohlmeijer, E. T., ten Klooster, P. M., Fledderus, M., Veehof, M. M., & Baer, R. (2011). Psychometric properties of the Five Facet Mindfulness Questionnaire in depressed adults and

development of a short form. *Assessment, 8*(3), 308-320.

Boniwell, I., Osin, E., Linley, P. A., & Ivanchenko, G. V. (2010). A question of balance: Time perspective and well-being in British and Russian samples. *The Journal of Positive Psychology, 5*(1), 24-40

Boniwell, I., & Zimbardo, P. G. (2003). Time to Find the Right Balance. *The Psychologist, 16*, 129–131.

Boniwell, I., & Zimbardo, P. G. (2004). Balancing one's time perspectivein pursuit of optimal functioning. In Linley, P. A. & Joseph, S. (Eds.), *Positive psychology in practice* (pp. 165–179). Hoboken, NJ: Wiley.

Boroditsky, L. (2000). Metaphoric structuring: understanding time through spatial metaphors. *Cognition*, *75*, 1 – 28.

Bowen, S., Witkiewitz, K., Dillworth, T. M., Chawla, N., Simpson, T. L., Ostafin, B. D., Larimer, M. E., Blume, A. W., Parks, G. A., Marlatt, G. A. (2006). Mindfulness meditation and substance use in an incarcerated population. *Psychology of Addictive Behaviors*, *20*(3), 343-347

Bowerman, M. (1983). Hidden meanings: the role of covert conceptual structures in children's development of language. In D. Rogers & J. Sloboda (Eds.), *The acquisition of symbolic skills* (pp. 445–470). New York, NY: Plenum Press.

Boyd, J. N., & Zimbardo, P. G. (1997). Constructing Time After Death. The Transcendental-Future Time Perspective. *Time & Society, 6*(1), 35-54.

Breslin, F. C., Zack, M., McMain, S. (2006). An Information-Processing Analysis of Mindfulness: Implications for Relapse Prevention in the Treatment of Substance Abuse. *Clinical Psychology: Science and Practice, 9*(3), 275-299.

Broad, C. D. (1923). *Scientific Thought*. London: Routledge and Kegan Paul.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*(4), 822-848.

Cai, Z. G., & Connell, L. (2012). Space-time interdependence and sensory modalities: Time affects space in the hand but not in the eye. In N. Miyake, D. Peebles, & R. P. Cooper (Eds.), *Proceedings of the 34th Annual Conference of the Cognitive Science Society*. Austin, TX: Cognitive Science Society.

Casasanto, D., & Boroditsky, L. (2008). Time in the mind: Using space to think about time. *Cognition, 106*, 579–593.

Casasanto, D., Fotakopoulou, O., & Boroditsky, L. (2010). Space and Time in the Child's Mind: Evidence for a Cross-Dimensional Asymmetry. *Cognitive Science, 34*, 387-405.

Chiesa, A., Calati, R., & Serretti, A. (2011). Does mindfulness training improve cognitive abilities? A systematic review of neuropsychological findings. *Clinical Psychology Review, 31*, 449–464.

Clark, E. (1974). On the acquisition of the meaning of "before" and "after". *Journal of Verbal Learning and Verbal Behavior*, *10*, 266–275.

Clark, H. (1973). Space, time, semantics and the child. In T. Moore (Ed.), *Cognitive development and the acquisition of language* (pp. 28–63). New York, NY: Academic Press.

Clay, E. R. (1882). *The Alternative: A Study in Psychology*. London: Macmillan and Co.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*(4), 349-354.

Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety.* San Francisco: Jossey-Bass.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: Harper & Row.

Csikszentmihalyi, M. (2003). Good Business: Flow, Leadership and The Making of Meaning. New York: Viking.

Csikszentmihalyi, M. & Robinson, R. (1990). *The Art of Seeing*. Malibu, Ca: J. Paul Getty Museum and the Getty Center for Education in the Arts.

Deci, E. L., & Ryan, R. M. (2008). Hedonia, Eudaimonia, and Well-Being: An Introduction. *Journal of Happiness Studies, 9*, 1–11.

Deng, Y. Q., Liu, X. H., Rodriguez, M., & Xia, C. Y. (2011). The Five Facet Mindfulness Questionnaire: Psychometric properties of the Chinese version. *Mindfulness*, *2*, 123-128.

Drake, L., Duncan, E., Sutherland, F., Abernethy, C., & Henry, C. (2008). Time Perspective and Correlates of Wellbeing. *Time & Society*, *17*(1), 47–61.

Eliasson, O. (2009). Your Engagement has Consequences. In E. Ridgway (Eds.), *Experiment Marathon: Serpentine Gallery* (pp. 18-21). Reykjavik: Reykjavik Art Museum.

Epel, E. S., Bandura, A., & Zimbardo, P. G. (1999). Escaping Homelessness: The Influence of the Self-efficacy and Time Perspective on Coping with Homelessness. *Journal of Applied Social Psychology, 29*, 575–596.

Erber, E. (2011). *Achtsamkeit und Intersein: Der Buddhismus bei Thich Nhat Hanh*. Wien/Berlin: Lit Verlag.

Exner, S. (1875). Experimentelle Untersuchungen der einfachsten psychischen Processe. *Pflügers Archiv, 11*, 403–432.

Farb, N. A. S., Anderson, A. K., & Segal, Z. V. (2012). The Mindful Brain and Emotion Regulation in Mood Disorders. *Can J Psychiatry. 57*(2), 70–77.

Fledderus, M., Bohlmeijer, E. T., Smit, F., & Westerhof, G. J. (2010). Mental Health Promotion as a New Goal in Public Mental Health Care: A Randomized Controlled Trial of an Intervention Enhancing Psychological Flexibility. *American Journal of Public Health, 100*(12), 2372.

Fraisse, P. (1984). Perception and estimation of time. *Annual Review of Psychology, 35*, 1-36.

Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology, 2*, 300–319.

Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist, 60*(7), 678 – 686.

Grossman, P., Niemann, L., Schmidt, S., *&* Walach, H. (2004). Mindfulness-based stress reduction and health benefits. A meta-analysis. *Psychosom Res, 57*, 35-43.

Hak, T., van der Veer, K., Jansen, H. (2008). The Three-Step Test-Interview (TSTI): An observation-based method for pretesting self-completion questionnaires. *Survey Research Methods 2(3),* 143-150.

Hameroff, S. (2003). Time, consciousness and quantum events in fundamental spacetime geometry. *The Nature of Time: Geometry, Physics and Perception.* In Buccheri, R., Saniga, M., Stuckey, W. M. (Eds.) (pp. 77-89). Dordrecht: Kluwer Academic..

Hanh, T. N. (1976). *The miracle of mindfulness: A manual for meditation*. Boston: Beacon.

Hạnh, T. N. (1988). *The Heart of Understanding. Commentaries on the* Prajñāpāramitā *Heart Sutra*. Berkeley: Parallax Press.

Hạnh, T. N. (1998). *Schritte der Achtsamkeit. Eine Reise an den Ursprung des Buddhismus*. Freiburg: Herder.

Hanh, T. N. (2002). *No Death, No Fear: Comforting Wisdom for Life*. New York: Riverhead Books.

Hạnh, T. N. (2012). *Fear: Essential Wisdom for Getting through the Storm.* New York: HarperCollins.

Heidegger, M. (1927/2006). *Sein und Zeit*. Tübingen: Max Niemeyer Verlag.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*(2), 169-183.

Hou, J., Wong, S. Y.-S., Lo, H. H.-M., Mak, W. W.-S., Ma, H. S.-W. (2013). Validation of a Chinese Version of the Five Facet Mindfulness Questionnaire in Hong Kong and Development of a Short Form. *Assessment*, Online Apr 2013.

Hirsh, I. J., Sherrick, C. E. (1961). Perceived order in different sense modalities. *J. Exp. Psych., 62,* 423-432.

Husserl, E. (1913/1983). *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy*. The Hague: Martinus Nijhoff Publishers.

Husserl, E. (1917/1991). *On the Phenomenology of the Consciousness of Internal Time (1893-1917)*. Dordrecht: Kluwer Academic Publishers.

Ivanovski, B., *&* Malhi, G. S. (2007). The psychological and neurophysiological concomitants of mindfulness forms of meditation. *Acta Neuropsychiatrica*, *19*, 76–91.

Jahoda, M. (1958). *Current concepts of positive mental health*. New York: Basic Books.

James, W. (1890). *Principles of psychology* (Vol. 2). New York: Henry Holt.

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4*(1), 33–47.

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness.* New York: Hyperion.

Kahneman, D., Diener, E., & Schwarz, N. (Eds.). (1999). *Wellbeing: The foundations of hedonic psychology.* New York: Russell Sage.

Kaufman, K. A., Glass, C. R., Arnkoff, D. B. (2009). Evaluation of Mindful Sport Performance Enhancement (MSPE): a new approach to promote flow in athletes. *Journal of Clinical Sport Psychology, 3*(4).

Kee, Y. H., Wang, C. K. J. (2008). Relationships between mindfulness, flow-dispositions and mental skills adoption: A cluster analytic approach. *Psychology of Sport and Exercise, 9*(4), 393-411.

Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical Psychology Review, 31*(6), 1041–1056.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior, 43,* 207-222.

Keyes, C. L. M. (2005). Mental illness and/or mental health? Investigating axioms of the complete state model of health. *Journal of Consulting and Clinical Psychology, 73*, 539-548.

Keyes, C. L. M., Wissing, M., Potgieter, J. P., Temane, M., Kruger, A., & van Rooy, S. (2008). Evaluation of the Mental Health Continuum Short Form (MHC-SF) in Setswana speaking South Africans. *Clinical Psychology and Psychotherapy, 15,* 181–192.

Kilpatrick, L. A., Suyenobu B. Y., Smith S. R., Bueller, J. A., Goodman, T., et al. (2011). Impact of mindfulness-based stress reduction training on intrinsic brain connectivity. *Neuroimage*. *56* (1). 290–298.

Kraut, R. (1979). Two conceptions of happiness. *Philosophical Review*, *87*, 167-196.

Lamers, S.M.A., Westerhof, G.J., Bohlmeijer, E.T., ten Klooster, P.M., & Keyes, C.L.M. (2010). Evaluating the psychometric properties of the Mental Health Continuum-Short Form (MHC-SF). *Journal of Clinical Psychology, 67*(1), 99-110.

Lewin, K. (1951). *Field theory in the social sciences: Selected theoretical papers*. New York: Harper

Lilja, J. L., Frodi-Lundgren, A., Hanse, J. J., Josefsson, T., Lundh, L. G., Skold, C., & Broberg, A. G. (2011). Five Facets Mindfulness Questionnaire—Reliability and factor structure: A Swedish version. *Cognitive Behaviour Therapy*, *40*, 291-303.

Lombardo, T. (2006). *The evolution of future consciousness. The nature and historical development of the human capacity to think about the future.* Bloomington, Milton Keynes: Authorhouse.

Lyotard, J.-F. (1991). *Phenomenology*. New York: State University of New York Press.

Maddux, J. (2009). Stopping the 'madness': Positive Psychology and deconstructing the illness ideology and the DSM. In S.J. Lopez & C.R. Snyder (Eds.), *Oxford handbook of positive psychology (2nd ed.)* (pp.61-69). New York: Oxford University Press.

Maslow, A. H. (1970). *Motivation and personality (*2nd ed.). New York: Harper & Row.

Michon, J. A. (1978). The making of the present: A tutorial review. In Requin, J. (Eds.) *Attention and performance* (Vol. 7, pp. 89-111). Hillsdale: Lawrence Erlbaum Associates.

Peterson, C., Ruch, W., Beermann, U., Park, N., & Seligman, M. E. P. (2007). Strenghts of character, orientations to happiness, and life satisfaction. *The Journal of Positive Psychology: Dedicated to furthering research and promoting good practice, 2*(3), 149-156.

Piaget, J. (1927/1969). The child's conception of time. New York: Ballantine Books.

Pierre, J. (2010). "Intentionality", The Stanford Encyclopedia of Philosophy (Fall 2010 Edition), Zalta, E. N. (Eds.), URL = <http://plato.stanford.edu/archives/fall2010/entries/intentionality/>

Pöppel E. (1997). A hierarchical model of temporal perception. *Trends Cogn. Sci., 1*(2), 56-61.

Rogers, C. R. (1951). *Client-centered therapy: Its current practice, implications, and theory.* Boston: Houghton Mifflin.

Rosa, H. (2005). *Beschleunigung. Die Veränderung der Zeitstrukturen in der Moderne.* Frankfurt am Main: Suhrkamp.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology, 52,* 141-166.

Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living Well: A Self-Determination Theory on Eudaimonia. *Journal of Happiness Studies, 9*, 139-170.

Schopenhauer, A. (1890/1999). *Parerga und Paralipomena* (Vol. 1). Essen: Mundus Verlag.

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55, 5*–14.

Shapiro, S. L., & Carlson, L.E. (2009). *The Art and Science of Mindfulness: Integrating Mindfulness Into Psychology and the Helping Professions.* Washington, DC: American Psychological Association.

Sools, A. & Mooren, J. H. M. (2012). Towards narrative futuring in psychology: Becoming resilient by imagining the future. *Graduate Journal of Social Science, Vol 9*(2), pp. 203-226.

Steele, J. P., & Fullagar, C. J. (2009). Facilitators and outcomes of student engagement in a college setting. *The Journal of Psychology*, *143*(1), 5-27.

Stolarski, M., Bitner, J., & Zimbardo, P. G. (2011). Time perspective, emotional intelligence and discounting of delayed awards. *Time & Society*, *20*(3), 346-363.

Stolarski, M., Matthews, G., Postek, S., Zimbardo, P. G., & Bitner, J. (2013). How we feel is a matter of time: Relationships between time perspectives and mood. *Journal of Happiness Studies, 14*(3).

Strauss, L. (1989). *An Introduction to Political Philosophy: Ten Essays by Leo Strauss.* Detroit: Wayne State University Press.

Sweetser, E. (1991). *From etymology to pragmatics: Metaphorical and cultural aspects of semantic structure.* Cambridge: Cambridge University Press.

Ullén, F., de Manzano, Ö., Almeida, R., Magnusson, P., K., E., Pedersen, N., L., Nakamura, J., Csikszentmihalyi, M., Madison, G. (2011). Proneness for psychological flow in everyday life: Associations with personality and intelligence. *Personality and Individual Differences, 52*, 167–172.

Van Beek, W., Berghuis, H., Kerkhof, A., & Beekman, A. (2011). Time perspective, personality, and psychopathology: Zimbardo's time perspective inventory in psychiatry. *Time & Society, 2*0(3), 364–374.

Veehof, M. M., Ten Klooster, P. M., Taal, E., Westerhof, G. J., & Bohlmeijer, E. T. (2011). Psychometric properties of the Dutch Five Facet Mindfulness Questionnaire (FFMQ) in patients with fibromyalgia. *Clinical Rheumatology*, *30*, 1045-1054.

Waterman, A. S. (1990). The relevance of Aristotle's conception of eudaimonia for the psychological study of happiness. *Theoretical & Philosophical Psychology*, *10*(1), 39-44.

Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness (eudaemonia) and hedonic enjoyment. *Journal of Personality and Social Psychology, 64*, 678–691.

Webster, J. D. (2011). A new measure of time perspective: Initial psychometric findings for the Balanced Time Perspective Scale (BTPS). *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, *43*(2), 111-118.

Webster, J. D. (2013). Is it Time to Reminisce About the Future? *The International Journal of Reminiscence and Life Review, 1*(1), 51-54.

Webster, J. D., Bohlmeijer, E. T., & Westerhof, G. J. (2010). Reminiscence: Recent progress in conceptual understanding, empirical study and implications for practice. *Ageing & Society, 30*, 697–721.

Westbrook, C., Creswell, J. D., Tabibnia, G., Julson, E., Kober, H., Tindle, H. A. (2011). Mindful attention reduces neural and self-reported cue-induced craving in smokers. *Social Cognitive & Affective Neuroscience, 8*(1), 73-84.

Westerhof, G. J., Bohlmeijer, E. T. (2010). *Psychologie van de Levenskunst*. Amsterdam: Boom.

Westerhof, G. J., & Keyes, C. L. M. (2010). Mental illness and mental health: The two continua model across the lifespan. *Journal of Adult Development, 17*(2), 110–119.

Williams, J. M. G. (2008). Mindfulness, Depression and Modes of Mind. *Cognitive Therapy and research, 32*(6), 721-733.

Zhang, J. W., & Howell, R. T. (2011) Do time perspectives predict unique variance in life satisfaction beyond personality traits? *Personality and Individual Differences, 50,* 1261 – 1266.

Zhang, J. W., Howell, R. T., & Stolarski, M. (2013). Comparing Three Methods to Measure a Balanced Time Perspective: The Relationship between a Balanced Time Perspective and Subjective Well-Being. *Journal of Happiness Studies, 14*, 169-184.

Zimbardo, P. G. (2002). 'Just think about it: Time to take our time'. *Psychology Today, 35,* 62.

Zimbardo, P. G., & Boyd, J. N. (1999). Putting time in perspective: A valid, reliable individual difference metric. *Journal of Personality and Social Psychology, 77*(6), 1271–1288.

Zimbardo, P. G., & Boyd, J. N. (2008). The Time Paradox. New York: Free Press, Simon & Schuster.