

# Time to be wise.

Temporal perspective and wisdom

Jeffrey Dean Webster

**TIME TO BE WISE**  
TEMPORAL PERSPECTIVE AND WISDOM

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# TABLE OF CONTENTS

Chapter 1	General introduction	1
Chapter 2	Mapping the future of reminiscence: A conceptual guide to research and practise	23
Chapter 3	A new measure of time perspective: Initial psychometric findings for the Balanced Time Perspective Scale (BTPS)	59
Chapter 4	Time to flourish: The relationship of temporal perspective to well-being and wisdom across adulthood	79
Chapter 5	Wisdom and mental health across the lifespan	103
Chapter 6	Identity, wisdom, and critical life events in younger adulthood	125
Chapter 7	Paths from trauma to intrapersonal strength: Worldview, posttraumatic growth, and wisdom	147
Chapter 8	General discussion	165
	Summary in Dutch	185
	Summary in English	195
	Acknowledgements	203
	Publications by Jeffrey D. Webster	205
	Brief author biography	209





# CHAPTER 1

## General introduction

## TIME TO BE WISE: TEMPORAL PERSPECTIVE AND WISDOM

Wisdom has been considered the epitome of human development (e.g., Baltes & Smith, 2008; Clayton & Birren, 1980; Staudinger & Gluck, 2011), a hallmark of human virtue (Karelitz, Jarvin, & Sternberg, 2010; Peterson & Seligman, 2004) and a fundamental psychosocial strength (e.g., Ardelt, 2003; Bluck & Gluck, 2005; Erikson, 1963; Sternberg, 2000; Webster, 2003; Wink & Helson, 1997), from both eastern and western societies (e.g., Birren & Svensson, 2005; Takahashi & Overton, 2002) since antiquity.

Implicit in the above description are two ways in which time is inextricably connected with wisdom. One is historical time. The definition and expression of wisdom has changed over the millenia (e.g., Curnow, 2010; Osbeck & Robinson, 2005), and although this is an important and fascinating facet of wisdom, it is not the focus of the current thesis. Rather, *developmental (i.e., ontological) time* plays a major role, as does a second component of time not alluded to in the introductory statement, namely, *time perspective*. Time perspective can be considered a person's relatively stable orientation to their personal past, present, and future (Zimbardo & Boyd, 1999).

The primary goal of the thesis is to describe and empirically support a working model of wisdom. As part of this validation the importance of time perspective will be illustrated. In particular, the importance of reflecting on our personal past, or reminiscence, as well as our anticipation of the future for the development of wisdom will be emphasized. Typically, studies of time perspective focus on either the past or the future. Emerging scholarship suggests that investigating both temporal orientations jointly, may provide new information concerning important psychosocial outcomes (e.g., Webster & Ma, 2013).

The wisdom and time perspective literatures are each extensive and essentially independent areas. Our aim is to show in a preliminary way how time and wisdom are likely to be dynamically related. Given that skill and interest in time perspective (particularly reminiscing) emerges first in late infancy (Fivush, Habermas, Waters, & Zaman, 2011) whereas wisdom is a "...relatively late-emerging form of cognitive/affective understanding..." (Takahashi & Overton, 2005), we begin with a discussion of time perspective in general followed by brief descriptions of specific time orientations (i.e., the past, the future, and a balanced time perspective). Subsequently, we describe our working model of wisdom. We

end this introductory chapter with a brief orientation to the conceptual and empirical studies which corroborate our claims.

## TIME PERSPECTIVE

Our lives are embedded in time. Humans are uniquely capable of positioning themselves on a metaphorical "timeline". We know precisely where we stand since birth, as indexed by our chronological age. Although we are much less precise in estimating our time of death, just the fact that humans are conscious of their own mortality strongly shapes attitudes and future oriented behaviour. In many instances, we are consciously aware of time in its many forms. Time can be described as a: *commodity* which can be spent, saved, wasted, or borrowed; *structure* as when we are on, or just in, time; *physical object* which can be stretched, squeezed, or frozen; *psychological experience* as when time waits for no man, drags on, rushes by, or flies like an arrow; and *salve or balm*, as in time heals all wounds.

Various facets of time, from a non-developmental perspective (e.g., perceived duration, temporal orientation, subjective judgements of affective correlates, extension, and density) have been investigated, including the concept of time perspective (e.g., Boniwell & Zimbardo, 2004). Time perspective refers to a relatively stable individual difference variable in which individuals express a preferred mode of temporal focus (i.e., past, present, or future). An important trend in this area is the notion of a balanced time perspective, in which orientations to more than one temporal focus are flexibly employed to potentially enhance well-being and facilitate problem-solving.

It has been suggested that time perspective in general (e.g., Carstensen, 2006) and a balanced time perspective in particular (e.g., Boniwell, Osin, Linley, & Ivanchenko, 2010) play a powerful role in many psychological outcomes, including those related to motivation, mental health, interpersonal relationships, sense of self, and addictive behaviors, among many others. According to reviews, however (Boniwell, 2009; Kazakina, 1999), early research was hampered by lack of psychometrically sound measures and a focus on a single temporal orientation, typically the future. Moreover, investigation of age differences has not been the focus of most research in this area. Finally, Boniwell et al. (2010), note that "One of the unanswered questions with regard to time perspective concerns the relationship between different temporal orientation profiles with well-being" (p. 26).

As noted earlier, we become aware of our personal past at a very early age. We begin to reminisce, in fact, even before we have fully mastered language. As reminiscence plays a major role in both balanced time perspective and wisdom, we start with an overview of key elements of the reminiscence domain.

## **Reminiscence**

Reminiscence, the recall of personally experienced episodes from our past, is a ubiquitous process from infancy to late adulthood. Recent evidence, for instance, suggests that spontaneous reminiscence during daily family discourse can occur as frequently as a dozen times per hour (Bohanek, Fivush, Zaman, Lepore, Merchant, & Duke, 2009). The profound importance of episodic memory is often taken for granted in daily life as it usually operates quite effectively. Nevertheless, common memory impairments caused by neurological insult (e.g., accidents, viral infections, strokes), progressive memory loss due to dementia (e.g., Alzheimer's), or simple memory failures (e.g., forgetting a person's name or answer to an exam question) sharply focus our appreciation for healthy memory functioning. Without our memories we cannot live fully.

Reminiscence is influenced by many factors, including culture/ethnicity, family dynamics, gender, age, personality, context (e.g., community residing versus institution), and audience characteristics (e.g., Fivush, Habermas, Waters, & Zaman, 2011). In terms of culture/ethnicity for instance, relative to Caucasian participants, Chinese participants have later first memories, the content of which emphasize interdependent relationships consistent with collectivist cultures (Wang, 2006). African Americans, who have a strong oral tradition, may therefore score higher in social transmission functions such as Teach/Inform (Shellman, Ennis, & Bailey-Addison, 2011). Recently, O'Rourke, Carmel, Chaudhury, Polchenko, and Bachner (2013), illustrated how Israeli Jews and English Canadians differed on certain reminiscence functions (e.g., bitterness revival) in part because of important sociocultural differences between Israel and Canada (e.g., recurrent war, ongoing terror, and regional instability).

Episodic memories can occur spontaneously, triggered by random external events or internal thought processes. Oftentimes, however, people consciously, and with deliberate intention, recall particular images, ideas, and feelings. Persons remember their past for myriad reasons, including: emotional regulation; social exchange and bonding; identity consolidation; and the search for meaning and purpose in life. These various purposes can have different mental health and

psychosocial outcomes (e.g., Cappeliez, 2013; Westerhof, Bohlmeijer, & Webster, 2010). For instance, Korte, Westerhof, and Bohlmeijer (2012) recently demonstrated that remembering effective problem-solving strategies from the past mediated the relationship between critical life events and the experience of anxiety.

Webster (1993, 2003b) specified several of the reminiscence uses identified above. Factor analyzing responses from over 700 persons ranging in age from 17 - 91 resulted in an 8-factor reminiscence functions scale (RFS). The factor structure of the RFS has been replicated in English (e.g., Robitaille, et al., 2010), French (e.g., Mezred, Petigenet, Fort, Blaison, & Gana, 2006), Hebrew (O'Rourke, et al., 2013), and with some modification, Portuguese (Goncalves, Guedes, Fonseca, & Martin, 2010), and Chinese (e.g., Lou & Choy, 2013). The 8 factors and sample items of the RFS are shown in Table 1.

Table 1 *Eight functions of reminiscence*

<b>Function</b>	<b>Descriptions</b>
<b>Bitterness Revival</b>	Remembering times of perceived injustices, unfairness, regrets; ruminating about strongly negative experiences without resolution
<b>Boredom Reduction</b>	Using memories of the past for mental stimulation when current circumstances lack excitement, focus, or engagement
<b>Conversation</b>	Using the past as a means of engaging with another person; discovering a shared personal history to connect emotionally with another
<b>Death Preparation</b>	Reviewing one's past to put life in perspective; realizing the accomplishments and successes of one's life; deriving a sense of meaning to reduce death anxiety
<b>Identity Consolidation</b>	Remembering self-defining memories; using the past to clarify and consolidate a coherent sense of self; reinforcing values and goals
<b>Intimacy Maintenance</b>	Remembering important persons who are not currently part of regular social exchange; keeping memories alive of departed loved ones
<b>Problem-Solving</b>	Remembering earlier strategies, skills, and competences which resulted in successful past problem-solving outcomes
<b>Teach/Inform</b>	Using the personal past to describe, inform, and teach others about oneself and one's background and history; imparting cultural knowledge to younger persons

Subsequent research using the RFS (see Chapter 2 for an overview) showed that some reminiscence functions ( termed *bitterness revival* and *boredom reduction*)

are consistently associated with poor mental health outcomes such as anxiety and depression (e.g., Bohlmeijer, Roemer, Cuijpers, & Smit, 2007; Cappeliez, O'Rourke, & Chaudhury, 2005; Cappeliez & Robitaille, 2010; Pinguart & Forstmeier, 2012). In contrast, functions termed *identity consolidation* and *problem-solving* are generally associated with positive mental health. Other functions which are more social in nature, such as imparting or exchanging life lessons (termed *teach/inform* in the RFS) are associated with measures of well-being such as happiness (e.g., Webster, 1998). Further, accessing positive memories of our past can increase self-esteem, bolster our sense of purpose and meaning in life, and potentially contribute to longevity. Stones, Rattenbury, and Kozma (1995) for instance, found decreased mortality rates at an 18 month follow-up for a community based reminiscence group.

Although little, if any, reminiscence research has empirically linked such findings to wisdom directly, it seems likely that wise persons engage in particular forms of autobiographical recall. Certainly learning lessons from prior life experiences is considered to be an essential element of wisdom within most major theories or models of wisdom (e.g., Ardelt, 2003; Baltes & Staudinger, 2000; Erikson, 1963; Gluck & Bluck, 2013; Webster, 2003a, 2007, 2010).

In short, reminiscing can provide handsome dividends. Our personal past can be a source of inspiration and insight, and we conjecture that wise individuals take advantage of these sources of strength. Of course, remaining exclusively focused on the past while ignoring future challenges and opportunities would be counterproductive. Reminiscence research illustrates interesting isomorphic similarities to findings in the area of future time perspective, which we briefly highlight below.

### **Future time perspective**

Current research into future time perspective can be grouped into two conceptually related (although surprisingly infrequently cross-referenced) approaches. The first concerns future time perspective as an integral component of socioemotional selectivity theory (Carstensen, 2006), while the second centers on Zimbardo's (Zimbardo & Boyd, 1999) focus on time perspective categories. As with reminiscence work, to date, neither of these two research streams have directly examined the relationship between wisdom and a future orientation. Paralleling our discussion of reminiscence above, however, we argue that wisdom is positively associated with a future orientation in particular ways.

As reviewed above, we know that focusing on the past can have a dark side, such as rumination (Nolen-Hoeksema, 1998), bitterness revival (Webster, 1993), intrusive thoughts (as in trauma recollections; Tedeschi & Calhoun, 2004), and escapism (Watt & Wong, 1991). These types of processes have been associated with increased anxiety, depression, neuroticism, and hopelessness.

Similarly, anticipating the future can also involve maladaptive outcomes. For instance, imagining the type of person we most fear becoming, or feared selves (Markus & Nurius, 1986), can trigger an array of anxiety provoking thoughts, as can anticipating performance inadequacies, existential concerns about life's meaning, death anxiety, and endings which Kennedy, Fung, and Carstensen (2001) state can provoke "dread and sadness" (p. 51). Moreover, research employing the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd) has shown that an excessive preoccupation with the future can be maladaptive in that it may create unnecessary anxiety about unfulfilled obligations (such as work commitments) as well as impair social relationship quality.

In contrast, there is also good evidence that focusing on the future can have very positive outcomes as well. Zimbardo and Boyd (1999) have found that a future time perspective can be associated with many adaptive outcomes, including optimism, internal locus of control, achievement orientation, and delay of gratification, among others. As with the past, there is some evidence that a future time perspective also contributes to significantly increased longevity (e.g., Fry & Debats, 2011).

Carstensen (2006) and colleagues' (e.g., Charles & Carstensen, 2009; Lang & Carstensen, 2002) well known socioemotional selectivity theory outlines the complex relationship among emotional, motivational, and future orientation variables. Findings derived from this theory generally indicate that an open-ended future has implications for both informational and emotional goal pursuits, and that younger adults, on average, score higher on measures of future time perspective (e.g., Future Time Perspective scale, FTP) relative to older adults. On the other hand, older adults, who are less future oriented, are motivated to pursue emotional satisfaction. Cate and John (2007), however, demonstrated that the FTP scale actually measures two facets of FTP rather than only one as originally conceptualized, namely a focus on either limitations or opportunities. From early to late midlife, adults increased in perceiving the future in terms of limitations, but also maintained a positive focus on opportunities as well. This balance



between an optimistic outlook and a realistic appraisal of emerging limitations strikes us as a characteristic of wise persons.

From the preceding review, it is apparent that both reminiscing and anticipating can have positive consequences. Recently, Webster (2013) illustrated how our appraisal of the past and anticipation of the future share several features in common (e.g., they are both constructions; both must be viewed through the present; share overlapping neural architecture), and can spontaneously trigger each other. Humans are expert "mental time travellers", capable of seamlessly shifting our conscious awareness back and forth from our past to our future. How such flexible and fluid temporal transitions facilitate adaptation is examined below.

### **Balanced time perspective**

Like Janus, the Roman god of portals, most of us at least occasionally reflect on our past and imagine our future. Given that, as noted above, psychological benefits occur for a positive past and positive future separately, the question arises as to whether a joint, or balanced, time perspective would result in even stronger outcomes. To date, very few studies have investigated this question and have used instruments not originally intended to measure a balanced time perspective. The most prominent of these measures is the Zimbardo Time Perspective Inventory (ZTPI; Zimbardo & Boyd, 1999), which measures the following five time perspectives: past positive, past negative, present hedonistic, present fatalistic, and future. Researchers have employed various exploratory coding schemes, including a 33<sup>rd</sup> and 66<sup>th</sup> percentile cutoff range (Zhang, Howell, & Stolarski 2013), a hierarchical clustering technique (Boniwell et al., 2010), and deviation from supposed optimal subscale scores (Stolarski, Bitner, & Zimbardo, 2011). Limitations in scoring and social desirability have prompted efforts to investigate alternate ways to measure a balanced time perspective.

Webster (2006) developed a pilot instrument which assessed a person's positive use of their past and positive use of their future on two separate subscales. Subsequently, a median-split of the data for both the past and future subscale enabled the creation of a 4-category model (see Figure 1). Those persons who scored below the median on both the past and future subscales were classified as time restrictive; those persons scoring about the median on the past subscale, but below the median on the future subscale were classified as reminiscers; those persons who scored above the median on the future subscale but below the median on the past subscale were classified as futurists; finally,

those persons who scored above the median on both the past and future subscales were classified as time expansive. The latter category was conceptualized as a balanced time perspective.

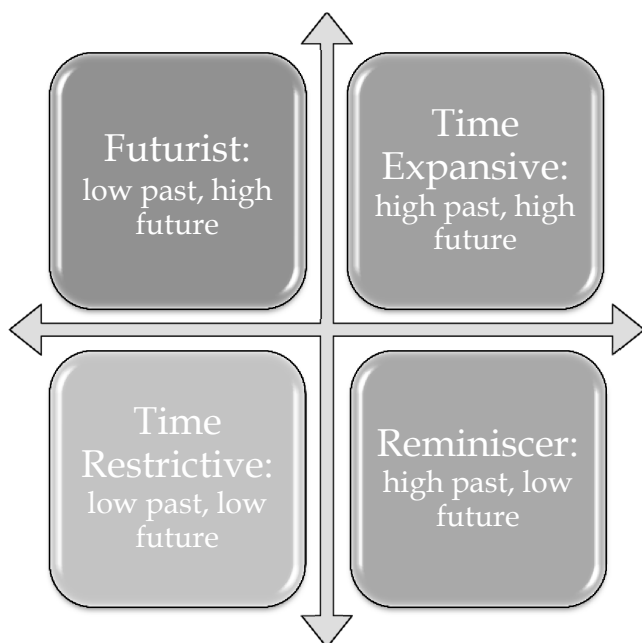


Figure 1 The four categories of the Balanced Time Perspective Scale (BTPS)

This instrument was modified by Webster (2011; see Chapter 3) and the results indicated that the BTPS had very good to excellent psychometric properties, including internal consistency, convergent validity (with the ZTPI), discriminant validity in regards to a measure of social desirability, and construct validity in regards to measures of happiness and satisfaction with life. Recently, Webster and Ma (2013) replicated the factor structure as well as the happiness and life satisfaction findings. However, important possible co-variates of a balanced time perspective were omitted by Webster and Ma (2013) and these are partially addressed by the study presented in Chapter 4.

In summary, good evidence suggests that reviewing one's personal past, or reminiscing, as well as anticipating and planning for one's future produces, or at least is positively associated with, many adaptive mental health outcomes. Some of these advantages include deriving a sense of direction and purpose in life,

identifying and pursuing realistic, positive future goals, and achieving a sense of fulfillment, happiness, and eudaimonia. Individually, these values, actions, and outcomes facilitate the pursuit of the good life. Collectively, they may represent a higher-order virtue. Indeed, we can say they constitute a core of wisdom, to which we now turn.

## WISDOM

Until recently, psychology as a discipline has not devoted much research attention toward this topic despite its ostensible social value and ancient pedigree. Earlier efforts, with few exceptions, were limited to conceptual discussions (Ardelt 2000; Baltes & Staudinger, 2000; Brugmann, 2006; Jeste & Vahia, 2008; Kramer, 2000; Osbeck & Robinson 2005; Randall & Kenyon 2001; Taranto 1989) with the actual measurement of wisdom dimensions lagging behind.

Mitigating this measurement limitation has been the work of Baltes and colleagues (e.g., Baltes & Kunzmann, 2003; Baltes & Smith 2008; Baltes & Staudinger, 2000) at the Berlin Group whose well-respected dominance in this domain has been characterized by Sternberg (2004) as a “benevolent monopoly” (p. 286). The focus of this group has typically concerned the cognitive resources and capacities of individuals required to intellectually grapple with hypothetical life event scenarios by thinking aloud solutions to presented problems. These narratives are recorded and then analyzed for evidence of the Berlin Group’s well-known criteria (i.e., rich factual knowledge, rich procedural knowledge, life span contextualism, relativism, and uncertainty).

Such intellectual capacities are essential for the manifestation of wisdom, but as Damon (2000) notes, “...it cannot be reduced to that alone. Wisdom also implies a capacity to live (not just think) in a manner informed not only by knowledge but also by *a reflective and deeply felt sense of the good*” (p. 339; italics in original). Wisdom is distinguishable from intelligence in several ways (e.g., Ardelt 2003; Sternberg, 2000), and there is a concerted contemporary effort to address other core elements of wisdom in addition to cognitive acuity (e.g., personality, morality, behaviors, values). This emerging body of evidence strongly suggests that alternate views of wisdom (e.g., Ardelt, 2011; Bluck and Gluck 2005; Webster 2003, 2007; Yang 2008) can provide valuable information concerning non-intellectual facets of wise persons.

Kunzmann and Baltes (2003) note that “The enormous cultural and historical heritage of wisdom makes a comprehensive psychological definition and operationalization of this concept difficult” (p. 1104). Nevertheless, there is a growing consensus about core fundamental features of wisdom (e.g., Jeste, Ardelt, Blazer, Kraemer, Vaillant, & Meeks, 2010). The following definition is a good balance between comprehensiveness and parsimony and captures most of the core elements of wisdom identified throughout the literature. Webster (2007) defined wisdom as “...the competence in, intention to, and application of, critical life events to facilitate optimal development in self and others” (p. 164). We briefly discuss these core features below.

Given the complexities inherent in wisdom, it is understood that a wise person possesses at least a minimal level of competence in decision-making, problem-solving, and other forms of intellectual abilities. This dimension is entirely consistent with Baltes’ well-known definition of wisdom as “expertise” in the fundamental pragmatics of life. Wise persons are also “mindful” in that they deliberately intend their actions to have wisdom-related consequences. Birren and Svensson (2005) state that wisdom involves the “...control and management of behavior that includes intention, purpose, and will” (p. 17). Although certain cognitive subroutines related to expertise may unfold automatically (e.g., Aspinwall & Staudinger 2002), as a conscious gestalt, wisdom has intentionality. That is, wisdom is not an accidental byproduct of some process or an epiphenomenon of some unrelated actions. Intentions to act wisely are nothing but unfulfilled potential unless they are acted upon. Application, therefore, is required if potentially wise behaviors are to be more than unrealized “New Year’s Eve” resolutions. Wisdom is forged in the exigencies of real life and emerges from grappling with critical life events, not the mundane, trivial minutiae of daily routines. Reflections upon such key occurrences enable wise individuals to set goals in multiple life endeavors (e.g., personal, career, health, leisure, artistic, spiritual), which contribute to optimal growth, that is, the realization of full potential akin to Maslow’s notion of self-actualization. Finally, wise individuals are not sage misers, hoarding their hard earned secrets of successful life and fulfillment; rather, they seek to engage others and share these valuable insights within their broader community. In other words, wise individuals are concerned about both self and others.

This conceptual definition is partially operationalized in the Self-Assessed Wisdom Scale (SAWS), a 40-item questionnaire reflecting five dimensions of

wisdom: humour, emotional regulation, reminiscence/reflectiveness, openness to experience, and critical life experiences (see Figure 2).

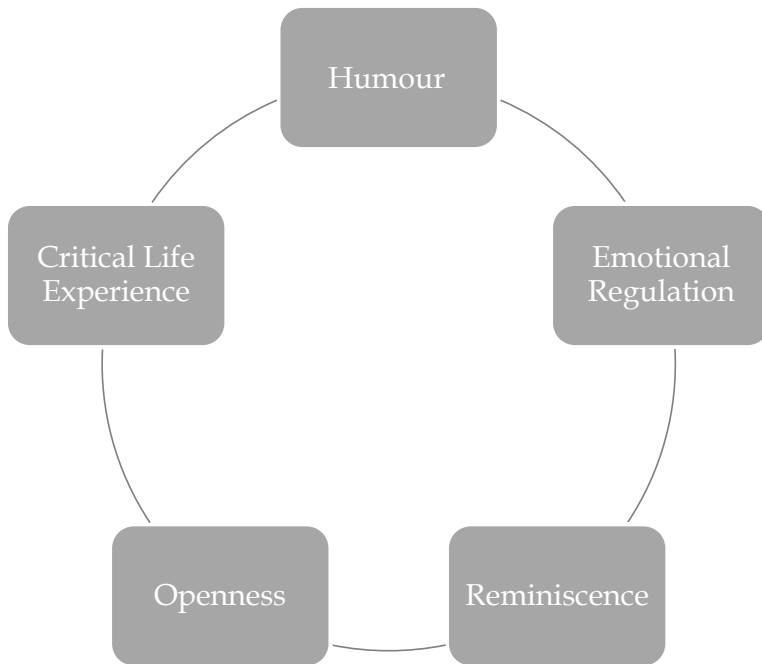


Figure 2 The five dimensions of wisdom

Humour has been recognized as an important trait in adaptive health (Wheeler, 2013), mature coping styles (Vaillant, 2000), and as a mental fitness indicator (Howrigan & MacDonald, 2008), among many other positive features. Surprisingly, however, the importance of humour as an aspect of wisdom (e.g., Staudinger, Dorner, & Mickler, 2005) has been given little empirical attention. Beerman and Ruch (2009) found that in lay persons' conceptions, humor and wisdom were related. Moreover, Gluck et al. (2013) concluded that the inclusion of humour as part of the SAWS was a unique and important addition in conceptualizing wisdom. The type of humour assessed by the SAWS includes not taking oneself too seriously, developing an ironic stance towards life (e.g., Randall, 2011), using humour to put others at ease, and as a way to cope with difficult life stressors. It is antithetical to sarcasm, malicious teasing, and other forms of caustic humour.

Table 2 *Prototypical characteristics and sample items for SAWS dimensions*

<b>Dimension</b>	<b>Prototypical characteristics of high scores</b>
<b>Humour</b>	<p>Recognition of life's ironies; well-developed sense of humour; ability and willingness to make others feel comfortable through humor; use of humor as mature coping style; search for the bright side in stressful events</p> <p><i>There can be amusing elements even in very difficult life situations</i>  <i>I often use humour to put others at ease</i></p>
<b>Emotional Regulation</b>	<p>Exposure to, and appropriate regulation of, the full spectrum of human emotions; an ability to distinguish among subtle, mixed emotions; an acceptance of, and openness to, both positive and negative affective states; ability to judge emotions in others</p> <p><i>I am good at identifying subtle emotions within my self</i>  <i>I am very good at reading my emotional states</i></p>
<b>Reminiscence/ Reflectiveness</b>	<p>Reflectiveness, particularly as it pertains to one's personal past; using memories to maintain identity, connect the past with the present, and gain perspective; using autobiographical memories as adaptive coping</p> <p><i>Reviewing my past helps gain perspective on current concerns</i>  <i>Remembering my earlier days helps me gain insight into important life matters</i></p>
<b>Openness</b>	<p>Openness to ideas, values, and experiences, particularly those which may be different from one's own; willingness to sample novelty in actions and ideas; appreciation of multiple perspectives even if they are controversial; tolerance of others</p> <p><i>I like to read books which challenge me to think differently about issues</i>  <i>I'm very curious about other religious and/or philosophical belief systems</i></p>
<b>Experience</b>	<p>Rich and varied experiences in interpersonal contexts particularly those requiring resolution of difficult life choices; coping with important life transitions; exposure to life's "darker" side (e.g., dishonesty, hypocrisy, trauma)</p> <p><i>I have experienced many painful events in my life</i>  <i>I have experienced many moral dilemmas</i></p>

Emotional regulation is similar to emotional intelligence (e.g., Salovey & Grewal, 2005) in that wise persons are able to non-defensively experience a wide array of complex emotions without a sense of being overwhelmed. Emotional regulation includes the ability to identify and adaptively use myriad emotional states including mixed emotions (e.g., poignancy). In its extreme absence,

emotional regulation would result in a condition similar to alexithymia. Wise persons do not purposely seek out negative emotional states, but neither do they run from them; rather, both positive and negative emotions are recognized as part of the natural order of daily living, each of which provides valuable information about a person's current context. Wise persons are not prone to chronic self-defeating anxieties and fears, as evidenced by the negative correlation between the SAWS and the personality trait of neuroticism (see Chapter 5).

Reminiscence/reflectiveness echoes classical admonitions to "know thyself", and is considered to be a key social-cognitive process in human development (Staudinger, 2001). Reflecting on past and current behaviours is an important source of understanding personal goals, motivations, strengths and limitations. Through a non-defensive evaluation of one's contributions to specific outcomes, a person can identify and take responsibility for actions. The resulting insight is stored in a self-schema which is subsequently enriched as additional life experiences accrue over time. This type of reminiscence is very similar to identity consolidation and problem-solving, 2 of the 8 types of reminiscence functions described by Webster (1993). However, wise persons employ all types of reminiscence functions if appropriate. For instance, consistent with the definition of wisdom offered earlier, wise persons can share their wisdom to promote optimal development in others via the teach/inform reminiscence function.

One of the hallmark traits of wisdom is openness to experience. This is often manifested in a tolerance for, although not necessarily an acceptance of, other belief systems, values, and customs. Wise persons have a clearly articulated sense of identity (Chapter 6) and a strong philosophical and moral base which serves to guide thought and behaviour. However, these cognitive-emotional foundations are understood to be only one of a potentially vast array of alternative positions. Wise persons recognize, indeed celebrate, the diversity in human nature and take into consideration the context when offering advice or guidance to others (e.g., Baltes & Staudinger, 2000). A sense of openness encourages wise persons to seek out novel experiences, pursue lifelong learning, and engage in problem-finding as well as problem-solving (e.g., Arlin, 1990). Exploring both one's inner and outer worlds is a critical element of wisdom.

Finally, it is not all experiences which contribute equally, if at all, to the development of wisdom. In fact, the majority of daily decisions concerning the minutiae of everyday life (e.g., what to have for breakfast, which tie to wear to work, when to water the lawn) have nothing to do with wisdom. Rather, wisdom

is evoked by ill-defined problems which may have no obviously correct answer but nevertheless entail serious consequences for a person's well-being. Serious life decisions often involve conflicting alternatives, moral dilemmas, and psychosocial distress, all of which are exacerbated by outcomes which are frequently unknown. Child custody arrangements with a recovering alcoholic ex-spouse, end of life nursing care for a parent suffering from Alzheimer's, and immigrating to a foreign country to pursue a better life, are all examples of the types of decisions which require wise deliberations and actions.

Persons scoring higher on wisdom as measured by the SAWS also score higher in generativity (Webster, 2007), ego-integrity (Webster, 2010), civic engagement (Bailey & Russell, 2009), benefit finding in cancer patients (Costa & Pakenham, 2011), forgiveness (Taylor, Bates, & Webster, 2011), empathy, emotional competence, and self-efficacy (Gluck et al., 2013), and resilience (Roháriková, Špajdel, Cviková, & Jagla, 2013) among other theoretically relevant findings.

### **Outline of the thesis**

The primary purpose of the thesis is to develop a model of wisdom which includes identifying important possible antecedent and consequent variables within a lifespan perspective. As reminiscence ostensibly plays a major role in both balanced time perspective and wisdom, we start with an overview of key elements of the reminiscence domain.

Chapter 2 provides a broad, critical review of the reminiscence field. Earlier limitations and emerging directions are identified. The chapter illustrates the potential benefits and risks of various types of reminiscence and suggests one way of categorizing therapeutic approaches for reminiscence interventions. Important parallels between reminiscence, balanced time perspective, and wisdom variables are evident. For instance, Chapter 2 argues for a lifespan orientation to reminiscence work, as well as identifies several individual difference variables which might potentially influence outcomes. Both of these elements also play a role in time perspective and wisdom.

Chapter 3 describes the development and validation of a new scale expressly designed to measure a balanced time perspective. Factor analysis confirmed two, 14-item subscales (one measuring a positive past and one a positive future) with excellent reliability. Construct validity (positive correlations with happiness, self-esteem, and life satisfaction) and convergent validity (positive correlations with relevant ZTPI subscales) were established.



Chapter 4 extends Chapter 3 findings by including a large, lifespan sample, and investigating the relationship among a balanced time perspective, mental health, and wisdom. To our knowledge, this is the first direct empirical test of the balanced time perspective-wisdom link. We used hierarchic regression analyses to investigate whether a balanced time perspective explains unique variance in both mental health and wisdom beyond demographic, subjective health, and personality variables.

Chapter 5 examines the relationship among wisdom, age, and mental health variables in a large ( $N = 512$ ) Dutch sample. An important addition in this study was the inclusion of middle-aged participants, who are often under-represented in adult development studies. This allowed us to test for both linear and quadratic trends in wisdom in relation to age. Mental health was assessed with the Mental Health Continuum - Short Form (MHC-sf) which characterizes mental health as a combination of psychological, emotional, and social well-being and allows for an examination of hedonistic and eudaimonic well-being.

Chapter 6 is one of the first studies to directly investigate the relationship between ego-identity and wisdom using psychometrically sound instruments. Erikson's theory states that ego-identity is the salient psychosocial crisis experienced by late adolescents, whereas the last crisis in the lifecycle is that of ego-integrity. The successful resolution of this latter task is wisdom. Theoretically, these two outcomes should be positively associated. Chapter 5 also introduces an important and relatively novel approach in wisdom studies, namely the inclusion of narratives of stressful life events which were coded for themes hypothesized to be associated with wisdom.

Chapter 7 extends the work of Chapters 5 and 6 in an investigation of traumatic life events, posttraumatic growth, and wisdom in a sample of over 300 young adults. Highly stressful, or traumatic events, have been postulated as one possible catalyst for wisdom development (e.g., Birren & Fisher, 1990). We used Structural Equation Modelling (SEM) to investigate alternate pathways from traumatic events to well-being, and tested the putative link between posttraumatic growth and wisdom.

In Chapter 8, the general conclusion, we integrate the findings within a working model of wisdom that identifies broad antecedent and consequent variables. Limitations of the thesis are discussed and suggestions for future research are identified.

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# CHAPTER 2

## Mapping the future of reminiscence: A conceptual guide for research and practice

Webster, J. D., Bohlmeijer, E. T., & Westerhof, G. J. (2010). Mapping the future of reminiscence: A conceptual guide for research and practice. *Research on Aging*, 32(4), 527-564.



## ABSTRACT

Nearly 50 years after Butler's (1963) seminal contribution, the field of reminiscence and life review is entering a more mature stage. Isolated examples of increasingly sophisticated studies have recently emerged which can serve as a sound, cumulative data base. The field lacks, however, an overarching conceptual model describing emerging trends, neglected domains, and key linkages among component parts. The present paper selectively, yet critically, reviews prior limitations and promising developments and then describes a comprehensive, multifaceted conceptual model which can guide future research and practice. We initially situate our model within a particular theoretical orientation (i.e., lifespan psychology). We then describe a heuristic model which identifies and discusses *triggers, modes, contexts, moderators, functions, and outcomes*. Finally, we illustrate how these interactive factors influence both theoretical and applied areas.

**MAPPING THE FUTURE OF REMINISCENCE:  
A CONCEPTUAL GUIDE TO RESEARCH AND PRACTICE**

Narrative approaches to understanding the human condition are gaining adherents in the social sciences including personality (e.g., Hooker & McAdams, 2003; McAdams & Pals, 2006), mental health (e.g., Bohlmeijer, Roemer, Cuijpers, & Smit, 2007), gerontology (e.g., Ruth & Kenyon, 1996; Kenyon, Clark, & de Vries, 2001), autobiographical memory (e.g., Bluck, 2003; Habermas & Bluck, 2000; Pasupathi, Weeks, & Rice, 2006) self-development (e.g., Fivush & Haden, 2003; McLean, Pasupathi, & Pals, 2007; Pasupathi & Mansour, 2006) and reminiscence (e.g., Webster, 2001). Biographical approaches to gerontology are said to capture more subjective qualities of growing older, what some writers (e.g., Kenyon & Randall, 1997) refer to as the “inside of aging” thus complementing mainstream empirical perspectives which aim to capture “objective” features. One longstanding manifestation of this narrative perspective is reminiscence, defined here as the recall of personally experienced episodes from one’s past.

Reminiscence has continued to attract researchers and practitioners ever since Butler’s (1963) seminal article on the life review. Currently, reminiscence is investigated and/or applied by representatives from myriad disciplines including nursing, recreational therapy, social work, education, theology, gerontology, and several divisions of psychology (e.g., developmental, cognitive, personality) to name only a few. As such, reminiscence theory, research, and practice are important multidisciplinary topics of relevance to many types of research and application issues. Unfortunately, the potential of reminiscence to inform workers across diverse areas has been jeopardized to some extent by earlier limitations in conceptualization and measurement.

Multiple reviews have noted the relative persistence of vexing problems in this domain (Bluck & Levinson, 1998; Haber, 2006; Molinari & Reichlin, 1985; Moody, 1989; Puentes, 2002; Romaniuk & Romaniuk, 1981; Webster, 2001; Webster & Cappeliez, 1993) many of which continue to plague the field. Nevertheless, there are signs of an emerging sophistication and conceptual clarity in reminiscence work (Webster & Haight, 2002) albeit in relatively isolated areas. Examples include more rigorous application of design controls in clinical trials (e.g., Bohlmeijer, Westerhof, & de Jong, 2008), utilization of more sophisticated statistical techniques such as confirmatory factor analysis in refinement of psychometric instruments (e.g., Robitaille, Cappeliez, Coulombe, & Webster, in press), greater attention to theory and model building (e.g., Cappeliez &

O'Rourke, 2006), and a more solid grounding of practical reminiscence applications in theory and research (e.g., Gibson, 2004; Westerhof, Bohlmeijer, & Webster, in press). Our belief is that components of this positive trend can serve as beacons in the relatively murky waters of the reminiscence sea, but only if they are organized in an integrative fashion. In this way, aspects of reminiscence work which have frequently been investigated in isolation, (e.g., style and context; function and outcome) can now be integrated.

The purpose of the present paper, therefore, is to identify critical aspects of a relatively comprehensive model of reminiscence and to develop a heuristic framework to guide future research and application. At the outset, we note that while this is a comprehensive review, it is not exhaustive. In a field relevant to, and investigated by, researchers and clinicians from domains as diverse as theology, psychotherapy, anthropology, medicine, social work, psychology, nursing, sociology, and hospice, we cannot adequately cover all possible issues. Some potentially important topics (e.g., neuropsychology) are omitted in our present treatment.

In this endeavour we attempt to balance comprehensiveness and parsimony. The conceptual framework we introduce is meant to be a *description* of fundamental elements rather than a rigid *prescription* for research and practice. Nevertheless, we encourage future researchers/practitioners to be cognizant of the interrelationship among the components during planning phases of projects and to explicitly link multiple elements during the execution and subsequent description of their work. We will accomplish our goal in two parts.

First, a circumscribed yet critical review of the literature will identify those pressing theoretical, methodological, and measurement issues which previous reviewers have identified as serious limitations in this area. We will also, however, note recent improvements in several areas of research; the latter will serve as foundations around which we will develop a conceptual framework. Second, these specific elements will be elaborated and interconnected in an overall model. Implications for research and application will then be illustrated.

## CRITICAL REVIEW

Butler (1963) was the first to underscore the importance of reminiscence and life-review in successful adaptation of older adults. Butler wrote about his clinical

observation of an increase of reminiscence – the act or process of recalling the past - in older people and postulated that this was due to the universal occurrence of an inner experience or mental process of reviewing one’s life. He conceived of life-review as a spontaneously or naturally occurring process that is “characterized by the progressive return to consciousness of past experiences, and, particularly, the resurgence of unresolved conflicts” (Butler, 1963: 66). He hypothesized that it is caused by the “realization of approaching dissolution and death, and the inability to maintain one’s sense of personal invulnerability” (Butler, 1963: 67). Though he recognized that people of all ages review their past from time to time and that any crisis may prompt life-review, Butler stressed that life-review is more intensive and observed more frequently in (early) old age. Later, the concept of life-review as a therapeutic intervention was introduced (Butler, 1974). Taking an extensive autobiography could help older adults with the developmental task “to clarify, deepen and find use of what one has already obtained in a lifetime of learning and adapting” (Butler, 1974: 531).

Initiated by Butler’s concept of life-review, reminiscence increasingly became the object of scientific research. The relationship between reminiscing and measures of adaptation was further explored (e.g. McMahon & Rhudick, 1964; Havighurst & Glasser, 1972; Boylin, Gordon, & Nehrke, 1976; Lowenthal, Thurnher, & Chiriboga, 1975; Coleman, 1974; Lewis, 1971). In addition, life-review was applied as a therapeutic intervention and the effects on depression, self-esteem and life-satisfaction were studied (e.g. Lappe, 1987; Perrotta & Meacham, 1981), often with mixed results.

Many reviews of reminiscence research and practice (e.g., Bluck & Levinson, 1998; Bohlmeijer, Smit, & Cuijpers, 2003; Coleman, 1986; Haber, 2006; Haight, 1991; Kovach, 1990; Molinari & Reichlin, 1985; Romaniuk & Romaniuk, 1981; Thornton & Brotchie, 1987; Webster, 2001; Webster & Cappeliez, 1993) have been completed and generally agree on the main limitations in the field. These include (1) a lack of conceptual clarity (e.g., simple versus evaluative reminiscence, differentiating reminiscence from life review), (2) the lack of evidence for some basic assumptions regarding life-review (e.g., that it is universal, biologically triggered by forthcoming death, and that it mainly has an intra-psychoic function), (3) the conflicting evidence of the supposed therapeutic effects of reminiscence and life-review, (4) relative paucity of psychometrically sound instruments, (5) poor experimental design (e.g., lack of appropriate control groups; inclusion of potential confounding variables, homogenous participant characteristics), and (6) unarticulated, or weak, theoretical connections, all of which attenuate any

conclusions drawn from empirical evidence. On the basis of these serious limitations, we now turn to a more detailed identification of those factors which must be taken into account in future reminiscence research if we wish to provide a means of producing an empirically sound and cumulative data base.

## THEORETICAL ORIENTATION

Birren and Bengtson (1988) have stated that gerontology is data rich but theory poor. Webster (1999: 30) suggested that the same holds true for reminiscence research. He claimed that "...reminiscence researchers have paid scant attention to theory and instead have compiled a loose composite of empirical findings which have, to date, defied theoretical integration. It is rare that research in this area tests specific hypotheses derived explicitly from a particular theory". Theories not only serve as interpretive templates to help explain inductively generated findings; they also serve to shape the interests and questions deemed appropriate to ask in the first place.

Consider the powerful influence of Butler's original contention that life review was essentially old age specific and triggered by thoughts of impending mortality. If this is the lens through which researchers and practitioners operate, then questions about alternative instigators of reminiscence, as well as earlier developmental stages, might not even be entertained. Such limited conceptualizations of reminiscence, as this paper will show, are no longer defensible. We believe it is vital, therefore, to place the framework we will present within a set of general theoretical parameters.

In our view, a lifespan perspective (Baltes, 1987) provides the most efficient orientation through which to view reminiscence behavior. Briefly, this "family of propositions" states that development (1) is lifelong (growth can occur throughout the lifespan); (2) is multicausal (bio-psycho-social conditions reciprocally influence development); (3) is multidirectional (behaviours can change in their direction, rate, and frequency), (4) is best understood in a multidisciplinary fashion; (5) involves plasticity (the notion of reserve capacity); (6) involves both gains and losses in differing proportions over adulthood; and (7) is embedded in hierarchic, mutually interactive contexts (individual, historical, cultural).

Briefly elaborating these propositions in relation to reminiscence is instructive. Webster (1999) argued that reminiscence can occur across the lifespan

and is multicausal (intrinsic psychological motivations interact with social prompts), consistent with proposition 1 and 2. Certainly reminiscence behaviours can change in frequency and duration dependent upon situations, consistent with proposition 3. Proposition 4 is strongly supported by the multiple disciplines which invest resources in reminiscence research. Clinical evidence concerning dementia, consistent with proposition 5 and 6, shows that even during late stages of this disorder lucid episodes of meaningful reminiscence can still, albeit briefly, appear. Finally, as this paper will detail, reminiscence processes and outcomes may look different dependent upon cultural and historical contexts, consistent with proposition 7.

Consistent with such propositions some general orienting questions about reminiscence arise. Under what conditions, contexts, and times is reminiscence most likely to occur? What are some of the developmental milestones in the use of reminiscence over the lifespan? Who engages in this process most frequently, and for what purposes or functions? How do individual difference variables such as gender, personality, and culture moderate or otherwise influence the manifestation of reminiscence outcomes? What are the cognitive and underlying neuropsychological processes involved? How do history and cohort effects complicate our interpretations of reminiscence behaviour? Given emerging evidence in the field, it is clear that reminiscence behaviour is much more broad, complex, and organic than originally thought. Lifespan propositions neatly capture much of this diversity and increased sophistication, and we invite researchers to interpret their findings with a lifespan perspective in mind.

Based upon this skeletal outline, we can now attempt to flesh out some of the most important components of a heuristic model. Figure 1 presents the basic model which informs the discussion to follow. Arrows merely indicate the sequence in which the components are discussed rather than a strict theoretical statement about the order and/or importance of the components. We discuss the interactive nature of the components in later sections.

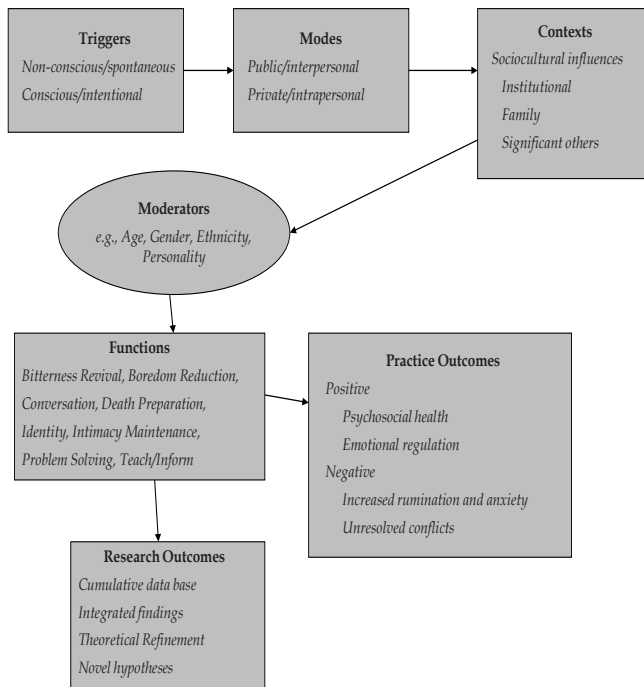


Figure 1 A heuristic model of reminiscence components

### A HEURISTIC MODEL OF REMINISCENCE

Humans have a capacity, perhaps even a need (e.g., Blinder, 2007; Bruner, 2002; Freeman, 1993; Kenyon, Clark, & de Vries, 2001) to retrieve, articulate, and disseminate self narratives. Memories can be seen as the building blocks of these narratives (Bluck, 2002). Some factor must initiate this process, a component we call *triggers*. Once memories are primed, we work with them at a private or public level, a distinction we refer to as *modes*. Memories do not occur in a vacuum, but rather are situated in various social *contexts*, the third category in our model. These elicited and situated memories are filtered through a series of individual differences variables which have the power to *moderate* many important characteristics. Next, reminiscences serve a purpose beyond simple recall, that is, they operate to allow a person to achieve some psychosocial goal. In other words, reminiscence serves particular *functions*. Finally, remembering our past for a

specific reason (i.e., function) produces an *outcome* such as bolstering a person's sense of mastery or self-esteem. As Butler (1963) speculated, and subsequent research verified, these outcomes can be both positive and/or negative.

We discuss these components in the order just described for didactic purposes and issues of clarity, recognizing full well that no such strict sequential ordering necessarily occurs in real life. In fact, we maintain that each component is dynamically related to all others in some reciprocal fashion, such that components described near the end of the model influence elements near the beginning and middle, and vice versa. Examples of such reciprocal interaction are described later. We turn now to those factors which initiate the reminiscence process.

### Triggers

Proust's (1934: 36) evocative depiction of the cascade of images, emotions, and cognitions subsequent to smelling the "petite madeleines" illustrates one potent trigger of reminiscence:

But when from a long-distant past nothing subsists, after the people are dead, after the things are broken and scattered, still, alone, more fragile, but with more vitality, more unsubstantial, more persistent, more faithful, the smell and taste of things remain poised a long time, like souls, ready to remind us, waiting, and hoping for their moment, amid the ruins of all the rest; and bear unfalteringly, in the tiny and almost impalpable drop of their essence, the vast structure of recollection.

*Non-conscious/spontaneous triggers.* Research has empirically supported the eloquent, yet anecdotal, writing of Proust. For instance, olfaction and memory have been shown to be intimately and powerfully linked (e.g., Herz, 2004). But the sense of smell is but one of a virtually unlimited number of prompts to recall our past. Any sense modality (the touch of a hand, the sight of a sailboat, the sound of a train whistle, the smell of popcorn) has this potential. Practitioners of reminiscence interventions with older adults have implicitly taken advantage of certain prompts to memory in order to stimulate recall; some of the more common and effective triggers in this context have now been identified (e.g., Bender, Bauckham, & Norris, 1999; Burnside, 1995; Gibson, 2004). In addition, internal processes (e.g., fleeting images, emotions, daydreams) can also engender specific autobiographical recall. An intriguing recent study by Cappeliez (2008)



illustrated that dreams reflecting identity concerns conform to the well known reminiscence bump phenomenon.

These classes of prompts (i.e., non-conscious/spontaneous) may share certain general features. For instance, they may be more passive, less goal focused, and less effortful. Limited research (e.g., Berntsen, 1998) exists which examines the qualities of such reveries. Given their spontaneous nature, and lack of evaluative analysis, reminiscences evoked non-intentionally may differ in emotional intensity and valence relative to memories triggered for particular purposes. For instance, Schlagman, Kvavilashvili, and Schulz (2007) have recently reported that involuntary (i.e., spontaneous) autobiographical memories are more specific, less rehearsed, and more positive than voluntary (i.e., intentional) autobiographical memories.

*Conscious/intentional triggers.* In contrast, we can be directly asked to share some earlier adventure, story, or personally amusing anecdote with others. Or we may intentionally engage in reflecting on past experiences for a particular reason such as remembering a past success. This class of triggers (i.e., conscious/intentional) seems to include more active, effortful, and deliberate search processes (e.g., Conway & Pleydell-Pearce, 2000; Reiser, Black, & Kalamarides, 1986). Recall is a means to an end rather than an end in itself. For instance, successfully retrieving a memory of a prior argument with a co-worker helps prepare one for future interactions with this individual; the goal here is not just to recall specific episodic content, but to use this information as part of a present, or anticipated future, coping strategy.

In summary, there must be some elicitor of reminiscence, an initial trigger which starts the recall process. Since virtually any external or internal prompt can serve this function, it is understood that the triggers of reminiscence are legion. We can begin to parse the possibilities by nominating and investigating relevant dimensions. Both theoretical conjectures and limited empirical evidence suggest that one broad dimension is the one between conscious/intentional and non-conscious/spontaneous (e.g., Cappeliez & Webster, under review). Within each category, facets such as memory specificity, emotional valence, frequency of recall, temporal distribution, and personal salience could provide important insights into reminiscence content and process. Once memories are triggered, how do we deal with such resurrected information? This question is addressed below.

## **Modes**

What happens to memories once they are triggered? In terms of modes there are only two possibilities. Either individuals share, via storytelling, such memories in an interpersonal style, or, they reflect privately on retrieved episodes in an intrapersonal style. Such a division immediately prompts questions concerning possible differences in the dimensions of told versus untold reminiscences. For instance, frequency of recall, elaboration, personal salience, triggers, and emotional valence are only some of the potentially important differences. Work with veterans, for instance, (e.g., Shaw & Westwood, 2002) has shown how the horrific experiences of war remain unspeakable for years after their occurrence. For many veterans, these images continue to be raw and ragged reminders of the nadir of their existence, and hence remain ineffable. This, of course, presents a research conundrum; if we seek to elicit private, heretofore untold memories, they then become by definition told. It is possible, therefore, that truly private, intrapersonal reminiscences differ in fundamental ways from socially transmitted memories. This limitation may be attenuated somewhat by two factors. First, people actually do divulge incredibly intimate, profoundly personal narratives of both a positive and negative nature. Second, as Pasupathi (2007) notes, the majority of memories are in fact shared eventually, although this statement needs to be further substantiated (e.g., Alea, under review). Recent evidence (e.g., Pasupathi, McLean, & Weeks, 2009), for instance, has shown that what is, and is not, disclosed concerns emotionality and whether recalled events are perceived as transgressions or not.

## **Contexts**

### *Sociocultural influences*

Reminiscence does not occur in a vacuum; rather, our memories are triggered, negotiated, and situated within particular contextual parameters. From creation myths, legends, and folk tales, to autobiographies and reminiscences, culture provides the parameters within which narratives are germinated, developed, and socially enacted. Sociocultural norms and values provide overriding scripts which serve as templates for individual life stories. McAdams (2006) for instance, suggests that a particularly American script is one of generativity in which redemption plays a vital role.

McAdams and Adler (in press) note, "Different cultures allow for varying degrees of innovation in the construction of a narrative identity, but all cultures place limits on what can be told. More importantly, cultures set the full

storytelling agenda for lives. They specify the very parameters of story coherence and comprehensibility” (p. xx). What, then, are the psychosocial consequences of different memory patterns for various ethnic groups? Are there associated differences in mental health or sense of identity as a consequence of cultural practices? Does a particular process or function which produces a “negative” outcome within one culture necessarily produce the same within a different culture? Are there reminiscence “universals”?

*Institutional.* In addition to possible ethnic differences, institutional aspects of culture such as religious and geopolitical contexts can strongly influence reminiscence processes and outcomes via their sanctioning functions. For instance, Halbertal and Koren (2006) illustrate how conflicting narratives of Orthodox Judaism and gay/lesbianism jeopardized identity formation. At the extreme, collective memories of entire groups can be silenced (e.g., Lev-Aladgem, 2006; Marks, 2007).

Particular canonical narratives linked to specific mores help determine the types of memories deemed appropriate. Keller (1997), for instance, discusses the difficulties many older Germans had with remembering elements of Nazi Germany during the Second World War. Thus, it appears evident that individual lifestories and their reminiscence building blocks are shaped by many interacting levels of influence, with culture being the most expansive.

*Family.* Even within the more intimate “institution” of the family, certain dynamics operate to give privileged place to some memories, but not others. Family collusion, power plays, and implicit rules influence which version of a memory gets to be told. As Thorne and Nam (2007: 122) assert, important others “...challenge the meaning and perhaps the veracity of our stories; they guilt-load us and silence us”.

Webster (2002) developed the Family Memories Index (FMI) to assess the variation among families in the value they placed on shared reminiscences. Results confirmed that wide latitude exists in this important family practice, and that this group process is related to individual uses of reminiscence. As one example, he reported a positive correlation between the FMI and the Reminiscence Functions Scale (RFS; see section on *Functions* for a full description of the RFS) factors of conversation, identity, intimacy maintenance, and teach inform, findings which have subsequently been replicated (Webster, 2007). Recently, Bohanek, Marin, and Fivush (2008) found that emotional expression and explanation of shared family reminiscences by mothers (but not fathers)

contributed to the development of positive self-esteem and adjustment in preadolescent children two years later.

*Significant others.* Even the influence of a single individual is powerful enough to modify shared personal memories. This is clearly illustrated in the research on parent-child reminiscing (e.g., Fivush, Haden, & Reese, 2006; Reese & Newcombe, 2007) where parents act as “scaffolds” for the emerging autobiographical memory telling skills of their children. Other factors, such as listener characteristics, as well as speaker goals and abilities, reciprocally interact to shape reminiscence outcomes (e.g., Marsh & Tversky, 2004). Work by Pasupathi and Carstensen (2003) on joint marital reminiscing, and conceptual work by Bluck and Alea (2002) attest to the importance and widespread manifestation of co-constructing narratives. It is apparent from this work that we may restrict some types of memories to specific individuals (e.g., confidants, spouses, spiritual leaders) and retrieve different memories to share with others. The who, what, and why types of questions these results stimulate are important areas for future research.

## **Moderators**

There are a whole class of variables which can potentially influence reminiscence occurrence, process, and outcome. These individual difference variables include those that either change slowly and predictably (e.g., age), are stable (e.g., personality), or are fixed (e.g., gender and ethnicity). Typically, these factors have been neglected in previous reminiscence research. Nevertheless, there is a trend for contemporary studies to include one or more of these important factors.

### *Age*

For instance, it is now well established that reminiscence is a lifespan process not restricted to elderly adults. Decoupling reminiscence from earlier Eriksonian perspectives and Butler’s contention that reminiscence and life review are prompted by concerns of death at the end of life, has opened the door to investigate reminiscence over the entire lifespan. Investigating reminiscence outside of exclusively older adult samples, however, is still unfortunately infrequent. Instead, there are two literatures which focus on opposite ends of the age span, with very little cross-referencing.

For instance, there is a robust area of research in childhood reminiscence. These studies (e.g., Fivush, Haden & Reese, 2006; Nelson & Fivush, 2004; Reese &

Newcombe, 2007; Wang, 2007) have demonstrated how reminiscence in young children (typically 3 years of age at start of studies) is related to a host of important developmental milestones concerning language skills, sense of identity, narrative abilities, autobiographical memory skills, and socioemotional development, to name only a few. This body of research is typically both conceptually and methodologically sophisticated and can therefore serve as a model for future research. Unfortunately, rarely, if ever, does this corpus of work reference reminiscence research from the adult literature. This limits the generalizability of the findings and misses opportunities to link this literature with earlier work on reminiscence in older adulthood. These isolated archipelagos of empirical data need to be joined; clearly, reminiscence does not emerge full-blown in later life, and neither does reminiscence initiated in the second and third year of life wither away to nothing post-childhood. It is imperative if we are to develop a complete understanding of reminiscence that both the childhood antecedents and adult sequelae are integrated into a comprehensive model.

To illustrate, how does the relatively global, undifferentiated social reminiscence (e.g., Nelson, 1993) seen in three years olds gradually differentiate into the myriad types of reminiscence seen in adulthood? When do children start to internalize social reminiscence and use their autobiographical memories to support intrapersonal functions such as problem-solving and sense of identity? At what point do children begin to engage in a type of reminiscence function noted in the adult literature called bitterness revival, a type of rumination with potentially negative psychosocial consequences?

From the other end of the chronological spectrum, investigators need to be aware that reminiscence patterns, frequency, and adaptiveness seen in elderly adults, have emerged over time, and have been refined, reinforced, and shaped over an entire lifecourse. Perhaps older adults who reminisce frequently had childhoods in which reminiscence was modeled, rewarded, and strengthened by the types of complex interaction patterns and didactic practices illustrated in the childhood reminiscence studies reviewed above.

Other studies have focused on the role of reminiscence in identity formation of adolescents (e.g. Habermas & Bluck, 2000; McLean & Thorne, 2003). McLean and Thorne found that the formation of identity in adolescents was related to important memories of the relationship of their parents. Habermas and Bluck reviewed how the formations of different types of coherence in life-stories of adolescents are related to social-cognitive developments.

We know from limited, yet consistent, findings from adult lifespan studies (e.g., Webster, 1993, 2002, 2003; Webster & Gould, 2007; Webster & McCall, 1999) that young, middle-aged, and older adults differ in the frequency of reminiscing for particular purposes with older adults, for instance, reminiscing more for teaching, intimacy maintenance, and death preparation purposes relative to younger adults. In contrast, young adults tend to reminisce more for bitterness revival, problem-solving, and identity, relative to older adults. It appears that, bearing in mind the limitations of the cross-sectional nature of these findings, private, intrapersonal functions dominate in younger adulthood while public, interpersonal functions progressively take over in later life. Continued investigation needs to determine why this occurs. Most likely there are several reasons. One possibility, for example, is that “Social reminiscing may thus represent a powerful emotion regulation strategy for meeting the emotional goals of later life” (Pasupathi & Carstensen, 2003, p. 431).

### *Gender*

The relationship between gender and reminiscence behavior is complex, with some studies finding differences between men and women while others do not. Nevertheless, whenever gender differences do emerge, they typically arise as a result of women scoring higher on measured variables. For instance, studies have (1) found a marginally significant trend for women to report a greater number of significant life events than men (de Vries, Blando, & Walker, 1995), (2) shown that women score higher on the RFS factors of Identity/Problem Solving, Conversation, and Intimacy Maintenance (Webster, 1995), or higher on Identity and lower on Bitterness Revival (Webster & McCall, 1999) and (3) demonstrate greater specificity in, and higher valuing of, purposeful reminiscence, specifically the RFS factors of Identity and Intimacy Maintenance (Pillemer, Wink, DiDonato, & Sanborn, 2003). In contrast, Webster (2002) failed to find gender differences on the RFS, and Pasupathi & Mansour (2006) found no gender differences in autobiographical reasoning. This inconsistency can be explained, in part, by differences in methods, measures, and study hypotheses. Moreover, gender effects may be attenuated or disguised by other more powerful variables included in studies (e.g., age, personality).

One area in which gender differences in reminiscence are less ambiguous and more consistent is the childhood reminiscence area. Children begin social reminiscing as soon as language skills support this process. The relevance of this for understanding gender differences is that several studies (e.g., Peterson, Sales,

Rees, & Fivush, 2007; Reese & Newcombe, 2007) show that parents act as scaffolds for reminiscence behavior by eliciting, editing, and reinforcing autobiographical recall in structured ways. Particularly germane is the finding that parents (primarily mothers) engage their male and female children differently when reminiscing (e.g., Fivush, Berlin, Sales, Mennuti-Washburn, & Cassidy, 2003; Fivush, Haden, & Reese, 2006; Reese, Haden, & Fivush, 1993) Girls are encouraged and rewarded for elaborative reminiscences, providing rich and detailed recall of personally important past events. Mothers model to their daughters an enjoyment of reminiscence and the importance of weaving autobiographical details into an emerging lifestory.

### *Ethnicity*

There has been very little attention paid to the potential effects of race in the adult reminiscence literature. This is unfortunate as "...memory sharing may be dramatically different in cultures that emphasize human individuality and uniqueness rather than collectivity and interpersonal enmeshment (Pillemer, 1998: 177). The vast majority of early studies were conducted primarily with Caucasian participants and when multiple ethnic groups were included in the sample, no analyses were performed examining possible differences between, or among, ethnic groups. This is unfortunate, as we know culture/ethnicity produces, or at least influences, several important outcome variables in many domains (Leichtman, Wang, & Pillemer, 2003; Markus & Kitayama, 1991).

In an early study, Merriam (1993) examined nearly 300 older adults from the Georgia Centenarian Study on various uses of reminiscence. Relative to Whites, Blacks scored higher on all 9 of the 17 items which showed a statistically significant difference such as using reminiscence to understand themselves and to teach others about their past. Norman, Harris, and Webster (2001) found similar results, reporting that Blacks scored higher on the RFS factors of Identity and Teach/Inform. This consistency, despite different measures of reminiscence, suggests a real difference in the frequency with which these two cultural/ethnic groups engage in reminiscing for particular purposes.

Why this may be so remains an open question, although one interesting possibility concerns the ostensibly stronger oral tradition of African Americans. A second intriguing hypothesis, suggested by work reviewed by Ochs and Capps (2001), is that African American children from working class backgrounds "...are encouraged to tell interesting personal narratives that amuse or otherwise impress an audience" (p. 77). Other ethnic groups (e.g., Hispanic) are also considered to

have strong oral traditions and further work needs to directly compare reminiscence behaviors among multiple groups.

Webster (2002) found that Chinese Canadians scored higher on the RFS functions of teach/inform, death preparation, conversation, boredom reduction, and bitterness revival, relative to White Canadians, but was unable to offer a compelling explanation for these results beyond invoking potential differences between individualistic and collectivist cultures.

In the childhood autobiographical literature, Wang (2006, 2007) found that Chinese children, relative to White American children, had later first memories, and remembered less detailed autobiographical information. These results are consistent with other non-European cultural groups, such as New Zealand Maori mother-child dyads as well (e.g., Hayne & MacDonald, 2003).

In summary, there exists a largely untapped, and potentially informative, research area concerning ethnic differences and similarities in reminiscence behavior. The very limited evidence suggests an intriguing difference between Caucasian majority individuals and ethnic minority individuals in the purposeful retrieval of specific types of memories (i.e., in order to teach life lessons) and possibly even cognitive dimensions such as earliest memory retrieval capability (at least insofar as the childhood literature suggests).

### *Personality*

Personality is a powerful and pervasive individual difference variable which influences many important components of motivation, health, relationships, career choice, and a host of other factors related to successful functioning. Nevertheless, it has received limited systematic attention in the reminiscence literature. Recently, Hooker and McAdams (2003) developed a hierarchical model of personality which explicitly includes reminiscence as a vehicle for the development and expression of the lifestory. Personality, in this model, is conceived of as an interaction between three levels, ranging from the traditional traits at the most specific level, through short-term goals and life plans at the intermediate level, through to autobiographical memory manifested in self narratives at the most general level. The model suggests that the type of memories selected, the nature of their dissemination, and their intended outcome, are all partially determined by variables operating at the basic and intermediate levels. For instance, we could hypothesize that the trait of extraversion makes it more likely that individuals will share retrieved memories with friends and colleagues, and moreover, that these exchanged stories will be of a particular emotional



valence (e.g., humorous, exciting) which serves to reinforce particular positive qualities in the teller. In fact, McLean and Pasupathi (2006) recently documented that extraverted participants shared self-defining memories with more people, and enjoyed these mutual reminiscences more than introverts.

Consistent with such suppositions, earlier work (e.g., Fry, 1995; Webster, 1993; 1994) indicated that components of the Big Five (Costa & McCrae, 1992) model of personality were associated in predictable ways with certain reminiscence variables. For instance, neuroticism was positively correlated with a ruminative type of reminiscence and social functions were correlated with extraversion. Fry (1995) developed a sophisticated model of reminiscence emphasizing an interactional perspective, whereby multiple variables reciprocally influence each other. Her work has been underappreciated and we would encourage researchers to examine her model for specific hypotheses and concepts. She found, for instance, that traits such as empathy, optimism, humor, and openness predicted positive forms of reminiscence (e.g., integrative and instrumental) whereas traits such as external locus of control, perfectionism, and self-derogation predicted negative forms of reminiscence (e.g., obsessive and escapist). Subsequent studies (e.g., Cappeliez & O'Rourke, 2002, 2006; Cappeliez et al., 2005; Cully, LaVoie, & Gfeller, 2001) have found essentially similar outcomes.

The preceding work is important because it illustrates a vital link between relatively stable person characteristics (traits) and reminiscence processes which may be more contextually triggered and dynamic (states) broadly supporting concepts identified by McAdams and Hooker (2003). Moreover, it alerts us to the fact that not everyone is predisposed to reminisce to the same extent or for the same purposes.

## **Functions**

It should be evident from the preceding discussion that reminiscence is not an end in itself. Moreover, as Cohen and Taylor (1998: 605) aver, “[I]t proves unhelpful to consider the frequency of reminiscence without breaking it down into different types with different functions”. As a form of episodic memory (Tulving, 1972), the retrieval of particular autobiographical elements allow us to achieve some specific goal beyond that of simple recall. Therefore, “...the next step in this line of research is to explore the potential for different functions served by reminiscence” (Parker, 1999: 155). 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. Bluck and Alea (2002: 63) state that researchers "...and practitioners who develop, use, and evaluate reminiscence techniques need to understand functions so as to be able to understand or predict the types of outcomes that thinking about the past might have for participants".

Several classification attempts have been made in an effort to capture relatively distinct uses of reminiscence (see Webster & Haight, 1995, for a review) involving either qualitative coding of narrative transcripts or quantitative analysis of questionnaire data. As an example of the former, Wong and Watt (1991) identified six types of reminiscence – integrative, instrumental, transmissive, narrative, escapist, and obsessive – and reported that only the first two types were associated with measures of successful aging. Unfortunately, relatively few follow-up studies have used this narrative coding scheme and so the promise of this approach has not been fully realized to date.

In terms of quantitative approaches the measure most consistently used until now is the Reminiscence Functions Scale (RFS; Webster, 1993, 2003; Webster & Gould, 2007). It has the advantage of ease of use in research studies and has developed a record of psychometric consistency in terms of various forms of reliability, validity, and factorial structure (e.g., Robitaille, Cappeliez, Coulombe, & Webster, in press; Coleman, 2005). The RFS identifies 8 types of reminiscence uses: Bitterness Revival (i.e., rehashing and ruminating upon memories of difficult life circumstances, lost opportunities and misfortunes); Boredom Reduction (i.e., using memories to fill a void of stimulation or interest); Conversation (i.e., communicating personal memories as a form of social engagement); Death Preparation (i.e., using memories to deal with the thoughts of one's life coming to an end); Identity (i.e., using personal memories in the search for coherence, worth and meaning in one's life and to consolidate a sense of self); Intimacy Maintenance (i.e., holding onto memories of intimate social relations who are no longer part of our lives); Problem Solving (using the past to identify former strengths and coping techniques to apply to current challenges); and Teach/Inform (i.e., sharing memories to transmit a lesson of life and share personal ideologies).

As such, the RFS is a relatively comprehensive measure of multiple reminiscence uses. Moreover, the RFS captures the uses identified in earlier taxonomies, including the qualitative categories of Wong and Watt. Further, the RFS has good convergent validity with the recently developed scale (i.e., the

TALE; Bluck, Alea, Habermas, & Rubin, 2005) from the autobiographical memory area with the advantage that it does not reduce the possible functions of reminiscence to only three categories (i.e., self, social, and directive), thereby eliminating discriminative power, as does the TALE.

Several studies reviewed previously (e.g., Cappeliez & O'Rourke, 2002, 2005; Cully, LaVoie, & Gfeller, 2001; Webster & Gould, 2007) have shown how different RFS functions are predictably associated with specific variables such as age, personality, life satisfaction, temporal distribution of memories, emotional valence of recalled memories, and various mental health outcomes (both positive and negative; see Westerhof et al, in press). A few additional examples will help illustrate the importance of looking at functions and how they are interrelated to other model components.

For instance, Blankenship, Molinari, and Kunik (1996) demonstrated how certain RFS functions (e.g., bitterness revival, boredom reduction) were significantly higher in a group of geropsychiatric inpatients compared to a community residing sample, illustrating the importance of context (i.e., institutional versus community setting) in the uses of reminiscence. Molinari, Cully, Kendjelic, and Kunik (2001) (with geropsychiatric patients) and Webster (1998) (with community residing participants) both illustrated that securely attached persons scored higher on the RFS function of Teach/Inform suggesting a link between attachment history and willingness and/or ability to pass on life lessons to others. Moreover, in the same study, Webster (1998) found that securely attached persons scored lower (relative to insecurely attached adults) on Bitterness Revival, suggesting that relatively stable trait-like moderators influence the emotional tone of autobiographical recall.

More recently, Cappeliez, Guindon, and Robitaille (2008) demonstrated how different reminiscence functions, as measured by the RFS, can either amplify or reduce associated emotions. For instance, intimacy maintenance functions are initially associated with positive affect, but these emotions subsequently become more negative and ruminative as reminiscing continues. Such research provides valuable, and much needed, information concerning the dynamic, temporally ordered aspects of the reminiscence process. Other studies have investigated such issues as RFS functions and age of first memory (Rybash & Hrubci, 1997) and lifestory high points (associated with Identity, Teach/Inform, and Conversation; McLean & Pals Lilgendahl, 2008).

One way in which to organize such empirical data is via the circumplex model proposed by Webster (2003). Here the 8 RFS factors are arranged along the 2 orthogonal dimensions of (1) self versus social, and (2) reactive/loss versus proactive/growth. This results in four quadrants with 2 RFS factors in each (see Webster for a full explication of circumplex rationale and findings). Briefly, quadrant one ( self-reactive/loss) consists of Bitterness Revival and Boredom Reduction; quadrant 2 (self-proactive/growth) consists of Identity and Problem Solving; quadrant 3 (social-proactive/growth) consists of Teach/Inform and Conversation; and quadrant 4 (social-reactive/loss) consists of Intimacy Maintenance and Death Preparation.

In light of this framework, quadrant one factors (i.e., Bitterness Revival and Boredom Reduction) have consistently been shown to be related to negative mental health outcomes as well as age differences (younger scoring higher than older participants) and quadrant 3 (especially Teach/Inform) consistently show ethnic differences (e.g., African Americans score higher than Caucasian Americans) as just two examples. Continued refinement of the reminiscence circumplex, therefore, may pay research and clinical dividends in the future.

Certainly a more complex picture is emerging concerning the antecedents and sequelae of reminiscence behavior across the lifespan. Thus the conceptual model of reminiscence presented here includes multiple elements, given the dynamic quality and contextually embedded features which constitute it. We briefly turn now to some implications for research and practice derived from our model. Our aim here is not to privilege or champion particular areas, but rather to illustrate but a few examples of testable hypotheses which can be derived from the model. The potential combination of questions which could be asked is exceptionally large. Imagine, for instance, if all the identified model variables were included in a hypothetical analysis of variance (ANOVA) design (e.g., a 2 (triggers) by 2 (modes) by 3 (contexts) by 4 (moderators) by 8 (RFS functions) and so on). What follows, then, is only a highly limited illustration of possibilities.

### **Implications for research**

We are now at the stage where we can formulate and test specific, theory driven hypothesis. Whereas earlier research often, of necessity, was confined to make very general, relatively unsophisticated queries (e.g., “Do you reminisce a lot, somewhat, or only a little”) contemporary researchers (e.g., McKee, Wilson,

Chung, Hinchliff, Goudie, Elford, & Mitchell, 2005) need to ask and answer more conceptually rigorous questions.

### *Depth path*

We see future research proceeding along two parallel paths. The first will be a *depth* path, where questions are domain specific (e.g., they might focus exclusively on modes or on a particular moderator variable such as ethnicity). Here work will flesh out specific details resulting in specific micromodels. For instance, investigations into audience effects (e.g., conversational turn taking; sibling influences in co-construction of narratives; the censoring impact of peers or parents on adolescents' abilities to share personal memories; or the shifts in content as stories are retold to different audience members) will prove invaluable in understanding the fluid, and context specific nature, of reminiscence.

Another example is the effect of relationship status on reminiscence functions. For instance, what are the short and long-term consequences for the frequency and quality of intimacy maintenance and bitterness revival functions as a result of widowhood? Bereavement research suggests that during the immediate effects of widowhood, thinking about one's lost spouse would sharply increase the frequency of intimacy maintenance functions associated with a high degree of emotional intensity. It would be predicted that both frequency and intensity might decline over the ensuing years. Cases in which such decline does not occur may be evidence of unresolved, or complicated, grief. Similarly, bitterness revival might also increase initially as feelings of an unjust world, unfairness, and anger at the departed contribute to such memories. Again, we might expect these to decrease over time. Both expectations would most likely be qualified by moderator variables as described previously. The answer to these types of questions entails longitudinal designs, a rarity to date in reminiscence studies. Similarly specific questions can be pursued within each of the factors identified in the model.

### *Breadth path*

At the same time, a *breadth* path will examine the broader linkages among the model components, resulting in a macromodel perspective; we want to see the proverbial forest, as well as the trees. Given the factors identified above in our conceptual model, researchers have the opportunity, and perhaps obligation, to address interconnections among model features. For instance, which is the stronger predictor of reminiscence: age, personality, or setting? Answers to this type of question have theoretical implications, as Butler's and Erikson's models predict old

age is the trigger for reminiscence. If personality variables (e.g., neuroticism, extraversion) and/or settings (e.g., children's queries to parents about earlier times, high school reunions) are stronger predictors, then we need to rethink the who, what, where, when, and why components of reminiscence processes.

Another example concerns the complex interaction among modes, contexts, moderators, functions, and outcomes. To illustrate, does the nature of interpersonal reminiscences between friends differ for men and women with respect to positive mental health outcomes for conversational reminiscence? It could be that the quality/quantity of male-to-male peer reminiscence is different in both nature and outcome. Men might offer fewer and less intimate details in shared reminiscences which might nevertheless produce a positive social bonding experience. Women, in contrast, may connect with peers on a deeper emotional level with greater details, and this may enhance self-esteem or sense of identity.

These, and myriad other, highly conjectural suppositions await future empirical assessment. It is important to investigate such questions because we know that reminiscence is neither universal, nor a panacea. For particular persons, under specific conditions, certain types of reminiscence are salubrious. In contrast, some individuals get along fine without much reminiscence of any kind, and for perhaps a minority of persons, reminiscence is unpleasant, useless, and perhaps even harmful to mental health, the issue to which we now turn.

### **Implications for practice**

Particular styles of reminiscence are differently related to mental health. Reminiscence with the functions of boredom reduction, bitterness revival and intimacy maintenance has been found to correlate with poorer mental health. Practitioners should be aware that reminiscence interventions could have negative effects (Westerhof et al., in press). Careful planning and testing of reminiscence protocols by making use of research findings and scientific theories that link psychological processes in reminiscence and its outcomes is now crucial (Goldfriend & Wolfe, 1996; Bluck & Levine, 1998). Reminiscence interventions have to take account of factors like setting (context), goals of the intervention, psychological and developmental theory, characteristics of the target-group (e.g. level of psychological distress) and skills and education of counsellors (Lin et al., 2005). We propose that it is useful to discern three basic types of reminiscence interventions: simple or unstructured reminiscence, structured reminiscence or

life-review and life-review therapy (see also Westerhof, Bohlmeijer & Webster, in press, for a more extensive review of reminiscence practise and mental health).

### *Simple reminiscence*

The first type, called simple reminiscence, is mainly unstructured autobiographic story-telling and spontaneous reminiscence. This often takes place within a relational context, for example at anniversaries, reunions, and among friends and family. The interpersonal functions of reminiscence like conversation and teach/inform are most common in this mode. This level of reminiscence may be facilitated in interventions, in the form of reminiscence groups in nursing homes where prompts for positive memories are given. The goal may be to enhance social contacts and short-term well-being. An example of a salient, supportive theory is socio-emotional selectivity theory, as this form of reminiscence relates to a focus on emotional functioning and strengthens the positivity bias in memory. An example is the use of reminiscence in a group fostering intergenerational bonding (Van Kordelaar, Vlak, Kuin, & Westerhof, 2007). Counsellors need basic skills in facilitating the process of spontaneous reminiscence and promoting social interaction.

### *Life-review*

The second type of reminiscence intervention is life-review. Relative to simple reminiscence, it is much more structured, focuses on the integration of both positive and negative life-events and is evaluative (Haight & Dias, 1992; Webster & Young, 1988). Life-review may be excellently directed at people with mild psychological distress who need support with coping with transitions or adversities in life. It helps to restore a positive self-identity. Continuity theory is one theory that underpins this type of reminiscence intervention, as an important aim is to find continuity between past and present. Life-review helps people to gain insight into how they have developed throughout their lives and how they have become the person they are now. It also helps them to focus on successful past coping repertoires and values that have guided them in their lives in order to adapt successfully to changes and life-events in their present lives. Promoting the use of the reminiscence functions of problem-solving and identity formation is therefore central in these types of interventions. Individual life-review interviews (Haight, 1988), guided autobiography (Birren, 1987), and preventive life-review (Bohlmeijer et al., 2005; Westerhof et al., 2005) are examples of this second modality. Counsellors need more advanced skills (e.g. structuring the

interventions and asking questions that promote problem solving reminiscence to help participants reframe the meaning of past events).

### *Life-review therapy*

The third type of reminiscence intervention is typically applied in a psychotherapeutic setting and may be called life-review therapy. It is highly structured and is aimed at people with severe levels of depression or anxiety. The focus is not only on promoting coherence and continuity but also on diminishing the reminiscence functions of bitterness revival and boredom reduction. Reminiscence with people who have serious psychological distress will most probably elicit problem-saturated stories and a bias to negative memories and negative interpretations of life-events. In order to diminish the negative uses of reminiscences like bitterness revival or boredom reduction it may be necessary to apply more dynamic psychotherapy with a focus on underlying cognitive schemata related to self and the world (Cappeliez, 2002) or the deconstruction of problem-saturated stories (Kropf & Tandy, 1998). Counsellors will need specialist skills to apply interventions developed within these frameworks.

In contrast to life-review where the overall identity remains intact, life-review therapy may involve creation of a new life-story and changes in self-identity. Primary outcomes are therefore also the reduction of depression and anxiety. Examples of this mode are the integrative and instrumental reminiscence protocols in which reminiscence is combined with cognitive therapy and problem solving therapy (Watt & Cappeliez, 2000) narrative therapy (Bohlmeijer, Westerhof & Emmerik-de Jong, 2008; Bohlmeijer, Kramer, Smit, Onrust, & Marwijk, in press), and the life-review protocol used by Serrano et al., (2004) in which the focus was on eliciting specific positive memories. This protocol was based on the finding that depressed older adults have trouble retrieving these kinds of autobiographic memories. Studies linking structured life-review to cognitive theories of depression have found substantial effects on depression in the participants. This seems a particularly promising route to explore further.

The distinction between unstructured and structured reminiscence has often been made (e.g. Bohlmeijer et al., 2003, 2007; Coleman, 1974; Fry, 1983; Haight & Dias, 1992; Webster & Young, 1988). The need to distinguish between life-review and life-review therapy has been proposed by fewer researchers until now. It links up with the need to distinguish between self-change and self-acceptance as the desired outcome of life-review (Bluck & Levine, 1998). In life-review self-acceptance is the main goal. The basic structure of memories is left



intact but people are encouraged to interpret (reframe) life experiences in a more resourceful manner and to integrate both positive and negative experiences. In general the focus is on “memories that are highly accessible because of the current organization of the self-schema” (Bluck & Levine, 1998: 201). If self-change is the aim of life-review a more dynamic approach is appropriate: “The role of the therapist may be to provide conditions in which the individual is able to access or reconstruct memories that are not central to the current self-schema (i.e., not part of the standard script of self.)” (Bluck & Levine, 1998: 201). Also the way in which memories are interpreted may be discussed so that revision of the self is possible. This kind of life-review therapy can be more threatening and anxiety-provoking and requires more resilience and ego-strength from the participants.

The three types of reminiscence interventions could also be seen as three levels of intensity of reminiscence (Garland & Garland, 2002). At all three levels different specific reminiscence protocols can be developed. However the distinction between the three types of reminiscence interventions guides practitioners on a global level with the development of a specific intervention. For example, life-review therapy as a form of treatment of depression may require quite a different protocol than life-review as a form of prevention that assists people to cope with a transition in their lives (e.g., Bender, Bauckham, & Norris, 1999). Recently, several excellent treatises (e.g., Gibson, 2004; Haight & Haight, 2007; Kunz & Soltys, 2007) have examined the above issues and provided detailed plans for conducting different types of therapeutic interventions, including preparation, execution, and evaluation of implemented programs. We refer practitioners to these, and similar, resources.

## CONCLUSION

Nearly 50 years ago, Butler emancipated the naturally occurring process of late life reminiscence from the shackles which equated life review with incipient dementia. Sparked by this liberation, which then conceptualized reminiscence and life review as types of cognitive activities in which older adults maintained, if not improved, their abilities, researchers and practitioners eagerly implemented programs aimed at enhancing the mental and emotional health of elders through individual and group reminiscence projects. Originally, there was a wholesale acceptance and expectation that reminiscence was universally good, and this naïve expectation persisted despite the lack of any sound empirical support.

Eventually, repeated identification of serious limitations of both conceptual and methodological areas, forced interested parties to examine the field from a more critical perspective. A growing awareness of the multifaceted nature of reminiscence led to work on modes and functions; theoretical critiques led to examining reminiscence in all age groups from a lifespan perspective; and an emerging awareness of individual differences (e.g., gender, personality, ethnicity) focused attention of those moderators of reminiscence which produce differences in outcomes.

The field is now entering a more mature stage of development. Our conceptual guide capitalizes on this emerging trend by serving as a heuristic framework for future research and practice. We hope it will act as a schematic for work to come by identifying linkages that still need to be explored and by highlighting some of the more important variables which need further examination. From an original, virtually exclusive focus on elderly, primarily white female nursing home participants, contemporary research and practice is assessing the manifold process, content, and outcome variables of reminiscence across the entire life, from toddlers to centenarians, from a wealth of diverse backgrounds. We hope this exciting and expansive focus can continue and derive insightful and productive questions from the model presented here.

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# CHAPTER 3

## **A new measure of time perspective: Initial psychometric findings for the Balanced Time Perspective Scale (BTPS)**

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## ABSTRACT

The development and initial validation of a new scale of balanced time perspective is reported. A balanced time perspective is defined here as a frequent and equal tendency to think about both one's past and future in positive ways. Sixty-seven men and 79 women ranging in age from 18 - 46 years ( $M = 21.3$ ,  $SD = 4.42$ ) completed the Balanced Time Perspective Scale (BTPS) and measures of happiness, well-being, self-esteem, and two subscales of the Zimbardo Time Perspective Inventory. Principal components analysis (PCA) of the BTPS resulted in a Past orientation (14 items,  $\alpha = .88$ ) and a Future orientation (14 items,  $\alpha = .92$ ). Persons scoring below the median on both the Past and Future formed the *time restrictive* category; persons below the median on the Past but above the median on the Future formed the *futurist* category; persons below the median on the future but above the median on the past formed the *reminiscers* category; persons above the median on both the Past and Future formed the *time expansive* (i.e., balanced) category. As predicted, persons in the *time expansive* category scored higher on happiness, well-being, and self-esteem.

*Key Words:* time perspective, scale development, psychosocial health, positive reminiscence, future orientation

## A NEW MEASURE OF TIME PERSPECTIVE: INITIAL PSYCHOMETRIC FINDINGS FOR THE BALANCED TIME PERSPECTIVE SCALE (BTPS)

Time “waits for no man”, “heals all wounds”, and “weighs heavy on our hands”. It is an inescapable part of our life-space (Lewin, 1939), an omnipresent, dynamic force which structures our lives in sometimes subtle and sometimes profound ways. Our subjective awareness of our personal past, present, and future, that is, our *autonoetic consciousness* (Tulving, 1985) has implications for myriad psychosocial outcomes related to identity, motivation, coping, interpersonal interactions, emotions, and mental health, to name only a few.

One aspect of this overall orientation to time which is receiving increasing attention is time perspective. This is considered to be a relatively stable individual difference dimension in which people express attitudinal and behavioural preferences for a past, present, or future time perspective. Reviews (e.g., Boniwell, 2009; Kazakina, 1999) note that the majority of studies investigating time perspective have focused on a single time frame only and this is usually the future. Less attention is devoted to exploring a past orientation, a somewhat surprising omission given the lengthy and extensive literature on reminiscence and life review (e.g., Butler, 1963; Webster, Bohlmeijer, & Westerhof, 2010). Moreover, it is very unusual to assess more than one time frame concurrently. And so, while in isolation we have gained much insight concerning a future orientation (see below) and some insight concerning a past orientation, we have little to no information concerning a joint, or balanced time perspective (e.g., Drake, Duncan, Sutherland, Abernethy, & Henry, 2008).

Moreover, an additional philosophical and methodological difficulty complicates the area. Both recalling the past and imagining the future can only be accomplished in the present. This means that while reminiscing, your thoughts are exclusively about the past (although they can trigger *subsequent* thoughts of the future) and while projecting yourself forward in time, your thoughts are exclusively about the future (although they can trigger *subsequent* thoughts of the past). Therefore, stated simply, the past is past and the future is future; in contrast, a person experiencing the present can be thinking about either the past, or the future, or the present moment. This definitional conundrum, as well as the nature of the brief temporal duration of present consciousness, has been vigorously debated in psychology since at least William James’ (1890) discussion of time.

Under the doctrine of the “specious present” (James, 1890), our subjective experience of the present is not of a single point, but rather is characterized by a small interval of time (Andersen & Grush, 2009). The current study cannot, and was not intended to, resolve such long-standing philosophical and empirical issues. Instead, I have chosen to focus exclusively on a person’s subjective appraisal of his or her personal past and future, and envisage a person’s consciously experienced present as a fulcrum, or balancing point for the other two dimensions. This is consistent with Lewin’s (1951) definition of time perspective as “...the totality of the individual’s view of his psychological future and psychological past existing at a given time” (p. 75, as cited in *Zimbardo & Boyd, 1999*). The purpose of the present research, therefore, is to develop a psychometrically sound scale which can measure balance between thinking about the past and the future.

As mentioned, most research on time perspective has been temporally compartmentalized, with work focussing either on the past or the future. For instance, recent studies have examined the relationship between future orientation and health measures such as obesity and smoking (e.g., *Adams & White, 2009*), sense of adolescent resilience under threat and challenge (e.g., *Seginer, 2008*), the frequency, content, and neural characteristics of episodic future thought (e.g., *Szpunar, 2010*), and poignancy (e.g., *Ersner-Hershfield, Mikels, Sullivan, & Carstensen, 2008*). Much evidence suggests that a future time perspective is associated with positive outcomes concerning motivation, goal-setting, academic achievement, and self-efficacy, as well as reduction in risky behaviour (e.g., *Boniwell, 2009; Zimbardo & Boyd 1999*). However, there is little evidence that a future orientation (at least as measured by the *Zimbardo Time Perspective Inventory; Zimbardo & Boyd 1999*) is associated with positive well-being (e.g., *Boniwell, Osin, Linley, & Ivanchenko, in press; Drake et al., 2008*).

In terms of past orientation, there is a large literature on life review and reminiscence (e.g., *Webster et al., 2010*) which investigates the frequency, functions, and sociocognitive outcomes of autobiographical recall. This corpus of work is generally not referenced by time perspective researchers. This is unfortunate, as we now know a good deal about how functions, for instance, are related to negative and positive outcomes. In terms of the former, one type of reminiscence termed bitterness revival (*Webster, 1993*) is associated with depression and neuroticism (e.g., *Cappeliez, O’Rourke, & Chaudhury, 2005*), whereas another type termed teach/inform is associated with happiness and a secure attachment style (*Webster,*

1998). Furthermore, Bryant, Smart, and King (2005) have illustrated how a consistent use of positive reminiscence contributes to happiness.

Given that documented benefits accrue to individuals who consistently remember a positive past, and similar findings attest to the salubrious outcomes of regularly imagining a positive future, it seems reasonable as a first conjecture to suggest persons capable of engaging both temporal directions relatively frequently, and with the flexibility to switch back and forth as needs arise, may manifest positive psychosocial outcomes. According to McAdams (2006), "...we begin to operate as both historians of the past and prophets for the future, seeking to cast our time-driven lives into narratives that work" (p. 407). It is possible that persons who are active historian-prophets possess unique qualities which enable them to live life in more fulfilling ways. This balanced time perspective, defined here as a frequent and equal tendency to think about both one's past and future in positive ways, enables individuals to use both the past and the future as sources of insight, strength, and happiness. Indeed, Boniwell and Zimbardo (2004) "... strongly suspect the construct of a balanced time perspective will show a consistent correlation with well-being. Further research is urgently needed to examine this relationship...using multidimensional, valid and reliable measures" (p.15).

Using one's past as a coping resource, social bonding mechanism, and an identity consolidation process, for example, can all profoundly affect the motivational, meaning-seeking, and decision-making goals of one's anticipated future. For instance, retrieving positive autobiographical memories of past successes with prior occupational obstacles can serve to strengthen one's resolve and confidence about an upcoming job interview. Plans, hopes, and dreams for the future depend to a large extent on memories, reminiscences, and autobiographical recall. Indeed, as Szpunar (2010) notes, "...the contents of episodic memory are flexibly sampled and recombined in order to generate novel future scenarios" (p. 157). Having the psychological maturity and cognitive flexibility to unify these temporal resources should enable such possibilities as greater competencies, higher life satisfaction, and increased happiness. Currently, however, the above is speculation as the requisite research has not been systematically conducted despite the fact that Boniwell and Zimbardo (2004) state that time perspective is one of the most powerful influences on virtually all aspects of human behaviour.

It has been suggested (Zimbardo & Boyd, 1999) that persons typically have a favoured, or dominant, time perspective. The Zimbardo Time Perspective



Inventory (ZTPI) was originally constructed to identify different temporal zones and their correlates. Results indicated that there were five time perspectives: past positive (PP), past negative (PN), present fatalistic (PF), present hedonistic (PH), and future (F). Each individual perspective has been associated with predicted outcomes. Only very recently, however, has attention been directed to examining a balanced perspective. Unfortunately, the scale was not designed to do this, and so operationalizations have been ad hoc, and differ among researchers. For instance, Drake et al. (2008) trichotomized scores on each time perspective and then suggested that persons who scored low on PN and PF, but moderately high on PP, F, and PH, constituted a balanced time perspective. There are potential problems with using the ZTPI in this way (e.g., Boniwell et al., in press;) and so an alternate measure may be potentially useful. Nevertheless, according to Boniwell et al., (in press) there have been no new measures of time perspective published since Zimbardo and Boyd's (1999) scale. This paper, therefore, reports preliminary information on the development and initial validation of the Balanced Time Perspective Scale (BTPS).

## METHOD

### Overview

A brief orientation to the analytic strategy of the current project is warranted. Data for the factor analytic component of this research combines information from 92 participants from a previously unpublished pilot project (Webster, 2006) with 146 participants collected at a later date. Pilot participants were only required to provide age and gender information and completed only one measure, the Janus Index. The subsequent participants completed a broader set of demographic and study variables. In order to increase the subjects to variables ratio for factor analytic procedures, the two samples were combined. For the combined factor analytic sample there were 100 men, 136 women, and two persons who did not provide gender information. Participants ranged in age from 17 - 46 ( $M = 21.21$ ,  $SD = 4.34$ ).

In contrast, the results relevant to construct validity and predictions related to the dependent variables of self-esteem, happiness, and subjective well-being (see below) are restricted to the data provided by the 146 individuals who participated later. Participant characteristics for the 146 member subsample are described below.

## Participants

Sixty-seven men and 79 women ranging in age from 18-46 years ( $M = 21.3$ ,  $SD = 4.42$ ) volunteered from 1<sup>st</sup> and 2<sup>nd</sup> year psychology courses at an ethnically diverse college in Vancouver. Participants received nominal course credit for participation and, compared to persons of their own age, were relatively healthy ( $M = 4.88$ ;  $SD = 1.35$  on a 7-point scale where 1 = *poor* and 7 = *excellent* health). Participants had an average of 13.8 years of education and represented 8 ethnic communities. Specifically, Chinese (37%), Caucasian (26.7%), Indo-Canadian (8.2%), Japanese (3.4%), Korean (1.4%), African/Caribbean Canadian (1.4%), Hispanic/Latino (1.4%), and 20.5% identifying as “Other”, completed all measures. Main demographic and study variable descriptive statistics, stratified by gender, are presented in Table 1.

Table 1 *Main demographic and study variable descriptive statistics stratified by gender*

	Women			Men		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Age	79	21.54	4.48	67	21.05	4.38
Education	79	13.76	2.42	62	13.90	1.93
Health	79	4.87	1.22	67	4.89	1.50
OHQ	78	33.17	5.52	67	32.08	5.87
RSE	77	29.20	4.84	66	29.09	5.51
SWLS	79	21.54	5.66	67	19.94	6.19
ZTPI future	79	38.74	5.73	67	36.22	6.80
ZTPI past	78	29.28	5.25	66	27.37	4.17
BTPS future	79	64.68	8.34	67	58.00	13.32
BTPS past	79	56.68	9.56	67	53.82	10.14

Note: OHQ = Oxford Happiness Questionnaire; RSE = Rosenberg Self-Esteem Scale; SWLS = Satisfaction With Life Scale; ZTPI = Zimbardo Time Perspective Inventory; BTPS = Balanced Time Perspective Scale.

## Measures

**The Janus Index.** The Janus Index<sup>1</sup> was named for the Roman god of portals who is often depicted with two faces, one looking towards the past and one looking towards the future. The Janus Index contains 20 statements assessing positive feelings and uses about one’s personal past (e.g., “Remembering past accomplishments makes me feel good about myself” and “Tapping into my past is a source of comfort to me”) and 20 statements assessing positive feelings and uses about one’s personal future (e.g., “Planning for the future gives me a sense of direction in life” and “I get excited when I think about the future”). Items were derived from a

review of the literature and were intended to tap cognitive, emotional, and motivational dimensions.

**The Zimbardo Time Perspective Inventory.** The ZTPI (Zimbardo & Boyd, 1999) is a 56-item scale which measures five components of time perspective: past positive (PP), past negative (PN), present fatalistic (PF), present hedonistic (PH), and future (F). For the present study, only the past positive and future subscales were used<sup>2</sup>. Statements from the former category include *“On balance, there is much more good to recall than bad in my past”* and *“I get nostalgic about my childhood”*; in terms of the latter, *“It upsets me to be late for appointments”* and *“I make lists of things to do”*. Respondents rate each statement from *very untrue* to *very true* on a 5-point scale. For the items used in the present study, past positive scores could range from 8 – 40 and future scores could range from 11- 55, with higher scores meaning the items are more characteristic of the respondent. Validity evidence for the past positive scale (e.g., negative correlation with aggression and depression) and the future scale (e.g., positive correlation with consideration of future consequences and number of hours spent studying) are fully described in Zimbardo and Boyd (1999). Cronbach’s alpha for the past positive subscale in the current study was .70, 95% CI [.62, .77] and for the future subscale Cronbach’s alpha was .72, 95% CI [.65, .78].

**Happiness.** Happiness was assessed with the short version of the Oxford Happiness Questionnaire (Hills & Argyle, 2002). This is an 8-item questionnaire with a 6-point, Likert type response format where 1 = *strongly disagree* and 6 = *strongly agree*. Questions include, *“I feel that life is very rewarding”* and *“I feel fully mentally alert”*. Three of the items are reverse scored. Higher scores, (scores can range from 8 – 48), indicate higher overall general happiness. Validity information (e.g., OHQ positively correlated with measures of optimism and extraversion and negatively with measures of psychoticism) is described fully in Hills and Argyle (2002). Cronbach’s alpha for the current study was .67, 95% CI [.58, .75].

**Well-being.** Well-being was measured with the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) which is a brief, 5-item scale in which respondents rate each statement (e.g., *“In most ways my life is close to my ideal”* and *“So far I have gotten the important things I want in life”*) on a 7-point, Likert type scale, where 1 = *strongly disagree* and 7 = *strongly agree*. A higher total score, which can range from 5 – 35, indicates greater satisfaction with life. Validity information (e.g., SWLS positively correlated with positive affect and marital status and negatively correlated with negative affect and neuroticism) is described fully in Diener et al. (1985). Cronbach’s alpha for the current study was .81, 95% CI [.76, .86].

**Self-esteem.** Self-esteem was measured with the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965). Respondents answer on a 4-point scale where 0 = *strongly disagree* and 3 = *strongly agree* to items such as, “*On the whole, I am satisfied with myself*”, and “*I take a positive attitude toward myself*”. Five items are reversed scored and higher scores, (scores can range from 0 – 30) indicate higher levels of self-esteem. Validity information for a Canadian sample (e.g., negative correlation with somatic, conduct, and emotional disorders) is described in Bagley, Bolitho, and Bertrand (1997). Cronbach’s alpha for the current study was .87, 95% CI [.84, .90].

**Social desirability.** Possible self-presentation bias was assessed with the Impression Management (IM) subscale of the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991). Twenty statements (e.g., “*I never cover up my mistakes*” and “*I have never dropped litter on the street*”) are rated as 1 = *not true* to 7 = *very true*. After reverse scoring appropriate items, participants are given 1 point for each statement which they rate in the extremely positive (i.e., 6 or 7) direction. Higher scores, (scores can range from 0 – 20), indicate a tendency to present oneself in an overly positive light. Validity information (e.g., IM positively correlated with various measures of social desirability such as the Marlowe-Crowne scale) is described fully in Paulhus (1991). Cronbach’s alpha for the current study was .78, 95% CI [.73, .83].

## RESULTS

### Factor structure

The combined ( $N = 238$ ) sample completed the 40-item Janus Index. Given the initial exploratory and data reduction emphasis, I conducted a principal components analysis (PCA). Since it was unknown in advance whether potential factors would correlate with one another, I used varimax rotation. In terms of extraction, the number of components was set a priori at 2 (rather than using eigenvalues) reflecting the theoretical dimensions of past and future. The Kaiser-Meyer-Olkin measure of sampling adequacy was .88 and the Bartlett’s Test of Sphericity was highly significant,  $\chi^2 = 4450.93$  (780),  $p < .001$ . Two components emerged with all future items loading on component 1 and all past items loading on component 2. Loadings for the future component ranged from .42 - .80 ( $M = .62$ ,  $SD = .11$ ), and loadings for the past component ranged from .33 - .72 ( $M = .56$ ,  $SD = .11$ ). The past and future subscales were positively correlated,  $r(238) = .36$ ,  $p < .01$ .

In order to trim the scale and optimize psychometric properties, items were retained only if they had high loadings (i.e.,  $>.50$ ) on their predicted factor and low (i.e.,  $< .20$ ) cross-loadings. Two future items which met the above criteria were also eliminated to produce an equal number of past and future items. Using these trimming criteria eliminated 12 items from the original 40-item Janus Index. This trimmed, 28-item version of the Janus Index, hereafter called the Balanced Time Perspective Scale (BTPS: see footnote<sup>1</sup>) can be seen in Table 2 and the complete BTPS appears in the Appendix.

Table 2 *Factor loadings, descriptive statistics, and communalities for the BTPS*

BTPS	Factor loading		Descriptive statistics		$h^2$
	<i>Future</i>	<i>Past</i>	<i>M</i>	<i>SD</i>	<i>Extracted</i>
<b>Future</b>					
02	<b>.80</b>	.03	4.74	1.08	.64
04	<b>.75</b>	-.01	4.13	1.04	.57
06	<b>.75</b>	.01	4.34	1.18	.57
08	<b>.73</b>	.14	4.59	1.14	.55
10	<b>.71</b>	.15	4.59	1.14	.53
12	<b>.71</b>	-.08	4.38	1.08	.51
14	<b>.71</b>	.19	4.19	1.08	.54
16	<b>.70</b>	.08	4.27	1.16	.50
18	<b>.62</b>	.11	4.32	1.18	.40
20	<b>.62</b>	.16	4.92	1.06	.41
22	<b>.59</b>	.12	4.65	1.01	.36
24	<b>.59</b>	.10	4.28	1.18	.35
26	<b>.57</b>	.16	4.31	1.42	.35
28	<b>.56</b>	.10	4.34	1.07	.32
<b>Past</b>					
01	.13	<b>.72</b>	3.74	1.14	.54
03	.11	<b>.69</b>	3.70	1.09	.49
05	.08	<b>.68</b>	3.38	1.29	.47
07	.09	<b>.67</b>	3.97	1.11	.46
09	.17	<b>.65</b>	3.43	1.08	.45
11	.05	<b>.63</b>	3.57	1.09	.39
13	.09	<b>.59</b>	3.87	1.15	.36
15	.00	<b>.59</b>	3.48	1.13	.35
17	.08	<b>.59</b>	4.23	1.20	.35
19	.15	<b>.58</b>	4.12	1.05	.36
21	.10	<b>.58</b>	4.10	1.18	.35
23	.07	<b>.58</b>	4.47	1.05	.34
25	.12	<b>.54</b>	4.27	1.08	.30
27	.10	<b>.52</b>	4.56	1.15	.28

Note:  $h^2$  = communalities.

Table 2 illustrates the 2-factor model, with associated loadings, descriptive statistics, and communalities. As can be seen, all *future* items (eigenvalue = 10.05) load on Factor 1 while all *past* items (eigenvalue = 4.89) load on Factor 2, explaining 37.38% of the overall variance. Consistent with the criteria established above, factor loadings are all high; mean loadings for Factor 1 = .67 (range = .56 - .80) and mean loadings for Factor 2 = .61 (range = .52 - .72). Further, cross-loadings for Factor 1 and Factor 2 are very low and the mean item-total correlations for the past and future subscales = .55 and .62, respectively.

### Reliability and validity

In terms of reliability, Cronbach's alpha for the past and future subscales were .88, 95% CI [.85, .91] and .92, 95% CI [.90, .94] respectively, indicating that the BTPS has excellent scale score reliability.

In terms of concurrent validity, the BTPS future subscale was positively correlated with the ZTPI future subscale [ $r(146) = .32, p < .001$ ], and the BTPS past subscale was positively correlated with the ZTPI positive past subscale [ $r(144) = .43, p < .001$ ]. The same analysis was conducted separately for men and women: the future subscale correlation was  $r(67) = .33, p = .006$ , and  $r(79) = .19, ns$ , for males and females, respectively; the past subscale correlation was  $r(66) = .51, p < .001$ , and  $r(78) = .36, p = .001$ , for males and females, respectively.

In terms of construct validity, 4 categories were created by crossing the two subscales (i.e., past and future) and performing a median split of each. Figure 1 illustrates the 4 category model and includes the number of men and women in each category as well as the mean scores for happiness, self-esteem, and subjective well-being corresponding to each category. Category 1 consisted of participants who scored below the median on both the past and future subscales: this category was termed *time restrictive*. Category 2 consisted of participants who scored above the median on the past subscale but below the median on the future subscale: this category was termed *reminiscers*. Category 3 consisted of participants who scored below the median on the past subscale but above the median on the future subscale: this category was termed *futurists*. Finally, Category 4 consisted of those individuals who scored higher than the median on both the past and the future subscales: this category was termed *time expansive*. A 2 (Gender) X 4 (BTPS Category) analysis of variance (ANOVA) was performed to test the effects of gender and category membership on the three measures of well-being. Gender and the gender by category membership interaction did not reach statistical significance for any of the three well-being measures and, therefore, are not discussed further.

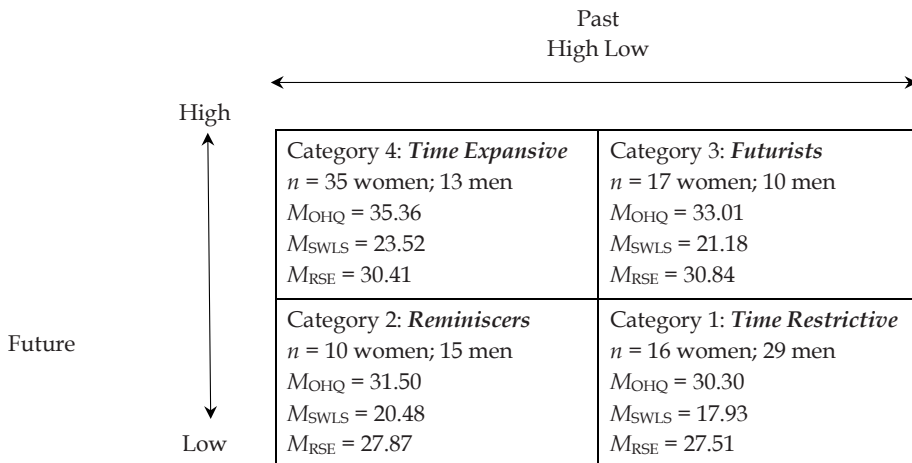


Figure 1 Four category conceptual model including gender count and overall mean subjective well-being scores as a function of BTPS categories

For the happiness (OHQ) variable, the main effect of membership category was significant,  $F(3,137) = 6.05, p = .001, \eta^2 = .117$ . Post hoc tests (Tukey HSD) indicated that the *time expansive* category ( $M = 35.10, SD = 5.20$ ) was significantly higher than both the *time restrictive* category ( $M = 30.44, SD = 5.02, p < .001$ ) and the *reminiscers* category ( $M = 31.44, SD = 5.72, p = .036$ ). No other groups were significantly different.

For the self-esteem (RSE) variable, the main effect of membership category was significant,  $F(3, 135) = 4.65, p = .004, \eta^2 = .094$ . Post hoc tests (Tukey HSD) indicated that both the *time expansive* category ( $M = 30.41, SD = 4.81, p = .030$ ) and the *futurist* category ( $M = 30.84, SD = 4.99, p = .038$ ) were significantly higher than the *time restrictive* category ( $M = 27.51, SD = 4.90$ ). No other groups were significantly different.

For the subjective well-being (SWLS) variable, the main effect of membership category was significant,  $F(3, 138) = 7.59, p < .001, \eta^2 = .142$ . Post hoc tests (Tukey HSD) indicated that the *time expansive* category ( $M = 23.52, SD = 5.11, p < .001$ ) was significantly higher than the *time restrictive* category ( $M = 17.93, SD = 5.50$ ). No other groups were significantly different.

For comparison purposes, the same category construction steps were carried out with the ZTPI (i.e., median splits for past positive and future subscales). Using this parallel strategy indicated that the ZTPI categorical model

showed no significant differences on the OHQ;  $F(3, 141) = 1.43, p = \text{ns}$ . There was an overall difference on the RSE;  $F(3, 139) = 2.93, p = .036, \eta^2 = .059$ , such that the *Zimbardo time expansive* category ( $M = 30.34, SD = 4.43, p = .042$ ), was significantly higher than the *Zimbardo time restrictive* category ( $M = 27.34, SD = 5.42$ ). No other categories were significantly different from each other. There was also an overall difference on the SWLS;  $F(3, 142) = 2.92, p = .036, \eta^2 = .058$ , such that the *Zimbardo time expansive* category ( $M = 22.15, SD = 4.94, p = .036$ ) was significantly higher than the *Zimbardo time restrictive* category ( $M = 18.68, SD = 5.92$ ). No other categories were significantly different from each other.

Finally, neither the BTPS future subscale [ $r(145) = .094, p = \text{ns}$ ] nor the BTPS past subscale [ $r(145) = -.036, p = \text{ns}$ ] correlated significantly with the IM scale, indicating that neither of these BTPS subscales are influenced by a social desirability pressure. In contrast, the ZTPI future scores was significantly correlated with IM [ $r(145) = .184, p = .026$ ], suggesting that persons may answer the subscale in ways they think will make them look favourable.

## DISCUSSION

Few scales exist which measure individuals' attitudes towards both their personal past and future concurrently. Since subjective, rather than clock or linear time, can seem phenomenologically fluid, the notion that relatively stable individual differences exist in the propensity to frequently examine one's past and project into an anticipated future, in a balanced way, is an important one to investigate. This study investigated the psychometric properties of a new scale of time perspective developed to accomplish just such an aim.

The BTPS is a reliable and valid measure of the balance between a positive attitude towards both the past and future. Factor analysis produced two, theoretically clean factors. All past items loaded strongly on one factor only (Past), with weak cross-loadings; similarly, all future items loaded strongly on one factor only (Future), with weak cross-loadings. Moreover, each factor had excellent scale score reliability. Further, both subscales correlated in predicted ways with the appropriate subscales of the ZTPI, indicating concurrent validity. Finally, neither of the two subscales was correlated with social desirability, suggesting respondents answer the questions honestly without trying to bias their responses in socially acceptable ways.



Conceptually, crossing the BTPS past and future subscales produced a 4-category model in which it is possible to identify both unbalanced (i.e., *reminiscers* and *futurists*) and balanced (i.e., *time expansive*) categories. As predicted, those individuals who are highly engaged in positive thoughts and feelings about both their past and future (i.e., *time expansive*), relative to those persons classified as *time restrictive*, score higher on measures of subjective well-being, broadly construed. They tend to be happier, feel better about life overall, and have stronger self-esteem. There is a qualification to the findings which is that for subjective well-being and self-esteem, there was no statistically significant difference between the time expansive and futurist categories. This may be a reflection of the mean age of the participants. Younger adults have a greater future time perspective (e.g., Carstensen, 1995) and when this is perceived as being primarily positive, then the addition of a positive past orientation is essentially redundant as a predictor of feeling good about oneself.

Additionally, the BTPS appears to have some advantages over the ZTPI. The BTPS is half the length of the full ZTPI and may therefore be appropriate in multi-assessment instrument studies, where respondent fatigue is a potential problem. Although a balanced time perspective is assumed to be associated with happiness (e.g., Boniwell & Zimbardo, 2004; Drake et al., 2008), only the BTPS, and not the ZTPI time expansive factor was associated with greater scores on the OHQ. Further, the BTPS is not correlated with social desirability, whereas parts of the ZTPI have this limitation (at least as measured with the IM in this study). Moreover, the BTPS includes a strong affective component in its questions, a feature which is lacking in the ZTPI future subscale (Boniwell, 2009). This may be the reason why the correlation between the BTPS and ZTPI future subscales is only modest ( $r = .32$ ) relative to the past subscale correlation ( $r = .43$ ). Many ZTPI items reflect time management rather than affective concerns, whereas items from the BTPS are strongly affect laden. Additionally, the reliability of the ZTPI subscales, although adequate, is less than the BTPS subscales in absolute terms. Moreover, the BTPS has very high face validity whereas several ZTPI items are not clearly and exclusively linked to the time perspective they are meant to assess. For instance, “*My decisions are mostly influenced by people and things around me*” is a past-negative item (this could concern the present or future as well), “*Before making a decision, I weigh the costs against the benefits*” is a future item (this could concern the present as well), and “*You can’t really plan for the future because things change so much*” is a present-fatalistic item (this could concern the future as well).

Finally, and perhaps most importantly for the present study, the BTPS was explicitly designed to measure a balanced past-future time perspective.

Certain limitations of the current study need to be addressed. For some, perhaps the most patent shortcoming is the omission of a present time perspective in the BTPS. As stated in the introduction, there are philosophical, conceptual, and pragmatic reasons for this. Philosophically, one can argue that the present has a unique place in our temporal awareness in that both the past and the future can only be *considered in the present*. Further, while both the past and future can extend indefinitely, the present is restricted to one's immediate (plus or minus some limited time) awareness. Therefore, the past and future apparently have similar parameters in common with each other while being different from the present. Indeed, recent neurological evidence (e.g., Schacter, Addis, & Buckner, 2007) indicates that remembering the past and imagining the future rely on similar brain regions. Conceptually, the idea of balance is frequently (though not necessarily) thought of in terms of scales, whereby two factors are brought into equilibrium about a fulcrum. A balance between the past and future, around the fulcrum of the present, therefore, seems conceptually cleaner or more intuitively simpler than trying to balance the five ZTPI subscales. Pragmatically, as a corollary to the preceding point, deriving the four categories (i.e., time restrictive, reminiscers, futurists, time expansive) is a simple procedure for the BTPS, whereas attempts to produce similar categories with the full ZTPI would be more unwieldy. Finally, the BTPS is not intended to replace the ZTPI, which will continue to attract researchers who wish to investigate a fuller spectrum of time perspective. Rather, the BTPS is an alternative measure appropriate for researchers interested in potentially unique characteristics of persons who balance positive dimensions of their personal past and future. Researchers could certainly use the ZTPI to look at past-future facets, but as detailed above, the BTPS has certain advantages over such an approach.

A second issue which will warrant further investigation concerns the creation of the four categories using a median split criterion. This seems feasible as a first step given that it creates roughly equal participant numbers in each category. It may be that this is a more conservative strategy than using some other criterion. For instance, one could assign persons to the time expansive category only if they scored in the top 33<sup>rd</sup> or 25<sup>th</sup> percentile. As an alternative, once enough data have been generated with the BTPS, norms could be developed and then used to establish cutoff points.

Finally, future research needs to investigate how the BTPS categories are related to a host of additional cognitive and social variables. For instance, do individuals in the time expansive category have greater cognitive complexity or flexibility? By tapping into both their past and future relatively frequently, does this enable more creativity or adaptive decision-making? Do the insights derived from frequently thinking about our past and future contribute to valued social traits such as generativity, compassion, and wisdom? Finally, what are the developmental implications of differing time perspectives? Future research needs to include older adults as well. Such questions, as well as confirming the factor structure via structural equation modelling (SEM), will guide future research. For now, researchers have a relatively brief, valid, and reliable measure of a balanced past-future time perspective.

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## FOOTNOTES

- <sup>1</sup> The BTPS was originally called the *Janus Index* (Webster, 2006). The term Janus had been used in a previous model of prospective memory, the author of which requested that I change the name so as to avoid possible confusion in the literature. I have complied with this request.
- <sup>2</sup> The ZTPI consists of 56 items in total, 13 of which are future items, and 9 of which are positive past items. Due to a coding omission, ZTPI future items 9 (“If things don’t get done on time, I don’t worry about it”) and 56 (“There will always be time to catch up on my work”), as well as past item 25 (“The past has too many unpleasant memories that I prefer not to think about”) were not included.

## APPENDIX

### The BTPS

Please rate the following statements using the scale below. Clearly print the appropriate number in the space provided before each question.

1= strongly disagree    2= disagree    3= slightly disagree    4= slightly agree    5= agree    6= strongly agree

1. Reviewing events from my past helps give my life meaning
2. I look forward to my future
3. I get a renewed sense of optimism when I remember earlier life experiences
4. Looking ahead really gets me energized
5. Reminiscing about my past gives me a sense of purpose in life
6. I enjoy thinking about where I'll be a few years from now
7. Seeing how the pieces of my past come together gives me a sense of identity
8. I have many future aspirations
9. The joy of life is strengthened for me when I recall the past
10. Achieving future dreams is something that motivates me now
11. Reliving earlier times in my life helps give me a sense of direction
12. I get excited when I think about the future
13. The pattern of my life makes more sense to me when I reflect on my past
14. Anticipating my later life fills me with hope
15. Tapping into my past is a source of comfort to me
16. Imagining my future makes me feel optimistic
17. Remembering happier times from my past helps energize me in the present
18. I like to fantasize about what is down the road for me
19. I feel my past is a resource upon which I can draw
20. Creating a positive future is something I often think about
21. Thinking about when I was younger helps me understand my lifestory
22. My future development is something I frequently think about
23. Reflecting on earlier triumphs helps me identify personal strengths
24. I enjoy thinking about goals that are yet to come
25. Recalling previous successes helps motivate me now
26. I have some very specific future goals
27. Important memories fill my past
28. The kind of person I want to be is brought into focus when I think about the future

*Note:* Odd items are from the Past subscale; even items are from the Future subscale. Item numbers correspond to item numbers in Table 2.

# CHAPTER 4

## **Time to flourish: The relationship of temporal perspective to well-being and wisdom across adulthood**

Webster, J. D., Bohlmeijer, E. T., & Westerhof, G. J. (accepted for publication). Time to flourish: The relationship of temporal perspective to well-being and wisdom across adulthood. *Aging and Mental Health*.



## ABSTRACT

**Objectives.** Despite the centrality of time to the aging process, the well-being consequences of different temporal orientations for optimal aging are poorly understood. We investigate one under examined area of temporal orientation, namely a balanced time perspective, in a large, lifespan sample from the Netherlands. **Method.** Participants consisted of 512 Dutch adults ranging in age from 17 - 92 years ( $M_{age} = 46.46$ ,  $SD = 21.37$ ), including 186 male and 326 females. Participants completed a measure of balanced time perspective, mental health, and wisdom. **Results.** Results indicated that a balanced time perspective uniquely predicted both mental health and wisdom even after controlling for demographic, physical health, and personality variables. Younger adults tended to be more future oriented relative to older adults while older adults tended to be more past oriented relative to younger adults. Further, both midlife and younger adults were more likely to have a balanced time perspective relative to older adults. **Conclusion.** A balanced time perspective is associated with higher well-being and wisdom across the adult age span.

*Keywords:* Balanced Time Perspective Scale, psychological well-being; reminiscence; future time perspective; Self-Assessed Wisdom Scale

## TIME TO FLOURISH: THE RELATIONSHIP OF TEMPORAL PERSPECTIVE TO WELL-BEING AND WISDOM ACROSS ADULTHOOD

Time rushes by or drags on, is wasted or well-spent, can be squandered, saved, and lay heavy on our hands. Procrastinators are warned that time waits for no man, and persons struggling with the aftermath of negative life events are soothed with the platitude that time heals all wounds. It is a ubiquitous part of our everyday existence and it can be a major influence on our thoughts, emotions, and motivations. According to Carstensen (2006), "Time is an integral part of virtually all psychological phenomena" (p. 1913).

In this paper, we focus on *time perspective* and its relationship to two important aspects of flourishing (Keyes, 2002), namely positive mental health and wisdom. Wisdom is considered to be a higher order (e.g., Costa & Pakenham, 2012) or optimal level of functioning (e.g., Ardel, 1997; Karelitz, Jarvin, & Sternberg, 2010; Staudinger & Gluck, 2011; Webster, 2013) and therefore can serve as a prototypical type of flourishing. Wise persons both examine their past and plan for their future and so we anticipate that wisdom and time perspective should be positively associated.

Zimbardo and Boyd (1999) see time perspective (i.e., the focus on past, present, and/or future), as an often unconscious process in which a person's temporal orientation strongly influences psychosocial choices, behaviours, and consequences (e.g., engaging in risky behaviour and negative health outcomes). Time perspective serves as a temporal lens through which life experiences are filtered, such as "...encoding, storing, and recalling experienced events, as well as in forming expectations, goals, and imaginative views" (Carelli, Wiberg, & Wiberg, 2011).

Reviews of studies on time perspective (e.g., Boniwell, 2009; Boniwell & Zimbardo, 2004; Kazakina, 1999) highlight the relationship among different time perspectives and personality traits (e.g., the Big Five of extraversion, neuroticism, openness, conscientiousness, and agreeableness); risky behavior (e.g., drugs/sex/financial/physical); cognition (e.g., creativity/intelligence/problem-solving); and psychopathology (e.g., anxiety/depression/mania), among many others. Consequently, Boniwell and Zimbardo (2004) describe time perspective as "...one of the most powerful influences on virtually all aspects of human behavior" (p. 167). Although most adults have a dominant time perspective, these temporal orientations can be influenced via many factors, such as family dynamics, culture,

and immediate contextual factors (e.g., deadlines, stress) which may change over both the short and long term. In other words, there is an inherent developmental component to time perspective.

### **Lifespan theories and time**

Time and age are intimately, and necessarily, linked constructs (e.g., Hendricks, 2001; Schroots & Birren, 1990). As we age, our time horizons may shift as developmental tasks become coupled with differing time conceptions and perspectives (e.g., Timmer, Bode, & Dittmann-Kohli, 2003). Consistent with lifespan theory (e.g., Baltes, 1987) there may be a shift in the gains/loss ratio in terms of time. As life experiences accrue and we progress increasingly closer to death, we may "gain" more memories of our past and "lose" more opportunities to accomplish normative future tasks. Empirical studies have shown that younger and older adults situate themselves and their lives in clearly divergent structures of personal time (Dittmann-Kohli & Westerhof, 2000) and highlight the importance of both future and past perspectives for developmental outcomes across the lifespan.

In terms of future time perspective, Carstensen's (2006) well-known socioemotional selectivity theory illustrates how a limited future time perspective shifts emotional goals in later life. Research in this area (e.g., Charles & Carstensen, 2009; Lang & Carstensen, 2002) generally supports the intuitive and theoretical expectation (Carstensen, Isaacowitz, & Charles, 1999) that older adults do indeed, at least on average, have a more limited future time perspective than younger adults. Studies have found both negative and positive consequences of a future orientation. With respect to the former, for instance, anticipating feared selves (Markus & Nurius, 1986), existential angst, death anxiety, and other forms of expected endings can all cause fear and sadness (e.g., Kennedy, Fung, & Carstensen, 2001). And focusing excessively on future goals and commitments can reduce happiness and contribute to relationship deterioration (Zimbardo & Boyd, 2008). In contrast, there is a host of positive consequences associated with a future orientation across broad domains, such as: health planning and behaviors (e.g., fruit and vegetable consumption and exercise; Gellert, Ziegelmann, Lippke, & Schwarzer, 2012); work-related growth, esteem, and security motivations (Kooij, deLange, Jansen, & Dijkers, 2013); and positive affect and meaning in life (Hicks, Trent, Davis, & King, 2012).

In terms of a past orientation, findings from reminiscence research (see Webster, Bohlmeijer, & Westerhof, 2010 for a review) demonstrate the many

functions that remembering our personal past plays in psychological well-being. In fact, reflecting on our personal past is considered a major developmental process (Pasupathi, Weeks, & Rice, 2006; Staudinger, 2001) which begins in childhood (e.g., Reese, Haden, & Fivush 1993) and continues into oldest adulthood. As with a future time perspective, engaging in reminiscence and life review can have either maladaptive and/or beneficial outcomes. With respect to the former, a ruminative type of reminiscence known as bitterness revival (Webster, 1993) has consistently been linked with maladaptive outcomes such as anxiety and depression (e.g., Korte, Westerhof, & Bohlmeijer, 2012; O'Rourke, Cappeliez, & Claxton, 2011). In contrast, it is now well-established that integrative and instrumental types of reminiscence can contribute to meaningfulness, sense of purpose, optimism, and increased self-esteem, among other components of well-being (e.g., Bohlmeijer, Roemer, Cuijpers, & Smit, 2007; Cappeliez & Robitaille, 2010).

### **A balanced time perspective**

An important issue in time perspective work is the recently emerging emphasis on a balanced time perspective (BTP). Conceived as the ability and motivation to flexibly engage different time orientations as dictated by situational forces (Zimbardo & Boyd, 1999), a balanced time perspective ostensibly has stronger connections to psychological functioning than any single time perspective in isolation. Recent studies (e.g., Boniwell, Osin, Linley, & Ivanchenko, 2010; Stolarski, Matthews, Postek, Zimbardo, & Bitner, 2013; Webster, 2011; Zhang & Howell, 2011) have suggested that examining BTP would advance the field. Most studies exploring a balanced time perspective have used the Zimbardo Time Perspective Inventory (ZTPI: Zimbardo & Boyd, 1999). Results using this instrument have found that a balanced time perspective is associated with higher happiness (Boniwell, Osin, Linley, & Ivanchenko, 2010; Drake, Duncan, Sutherland, Abernethy, & Henry, 2008), life satisfaction (Desmyter & De Raedt, 2012; Gao, 2011; Zhang & Howell, 2011) and higher positive mood states such as energy and hedonic tone (Stolarski, Matthews, Postek, Zimbardo, & Bitner, 2013).

Although the above studies represent important initial steps in investigating time perspective, there are some concerns about the ZTPI in general, and the scoring criteria for a balanced time perspective in particular (Boniwell, 2009; Carelli, et al., 2012; Webster, 2011; Zhang, Howell, & Stolarski, 2013). Moreover, the majority of the participants in these studies have been either young or older adults, primarily the former. Few studies have included participants

from across the entire adult age range, and of those that did, the focus was not on age differences in time perspective. Recently, a new measure, the Balanced Time Perspective Scale (BTPS; Webster, 2011) was developed to address facets of measurement concern.

The BTPS (see Method section for full description) assesses a person's subjective evaluation of their remembered past and imagined future. Large individual differences exist among persons, with some eschewing temporal evaluations of any kind, some who focus on the past, others on the future, and others who engage in an evaluation of both their past and future. To capture such differences, the Past and Future subscales of the BTPS can be partitioned via a median split to create high and low scorers on the past, as well as the future. This creates four categories: time restrictive (those persons who score below the median on both the Past and Future), reminiscers (those persons who score below the median on the Future, but above the median on the Past), futurists (those persons who score above the median on the Future, but below the median on the Past), and time expansive (those persons who score above the median on both the Future and the Past). Webster (2011) found that those persons in the time expansive (i.e., balanced time perspective) category scored higher in self-esteem, life satisfaction, and happiness, consistent with findings reported using the ZTPI.

Recently, Webster and Ma (2013) presented some of the first empirical evidence of age differences in a balanced time perspective. Young ( $M = 26.8$  years), midlife ( $M = 52.7$  years), and older ( $M = 66.4$ ) adults completed the BTPS and measures of happiness and satisfaction with life. Results, in part, demonstrated that a balanced time perspective explained an additional 8.8% and 7.4%, respectively, of the variance in happiness and satisfaction with life above and beyond demographic and health variables, and that a significant percentage of older adults achieved a BTP. Unfortunately, Webster & Ma (2013) did not include personality measures and so it is not known whether similar results would have been obtained if such effects had been taken into account.

In the current paper, we study differences in a balanced time perspective in young, midlife, and older adults. Our first hypothesis is that younger adults have a more future oriented perspective and older persons a more past oriented perspective, but that a balanced time perspective is equally divided across age groups (Webster & Ma, 2013). Our second hypothesis is that a BTP will be related to higher levels of well-being and wisdom, and this association will hold true independent of age (hypothesis three). Finally, we include measures of physical

health and personality traits in addition to the standard demographic variables in order to assess whether a BTP explains unique variance in well-being and wisdom. Our fourth hypothesis is that a BTP will account for additional unique variance in these two dependent measures after accounting for demographic, health, and personality traits.

## METHOD

### Participants

Participants consisted of 512 Dutch adults ranging in age from 17 - 92 years ( $M_{age} = 46.46$ ,  $SD = 21.37$ ), including 186 male and 326 females. Students (17 - 29 years) in an introductory personality psychology class participated themselves and then recruited two additional adults (34% parents and 17% grandparents, respectively) from a midlife group (30-59) and an older group (60-92). This convenience sampling technique may have increased the possibility of some minor dependency in the data and our results must be interpreted with this in mind. The sample was basically healthy (67.8% reported no health limitations, 26.4% slight limitations, and 5.9% considerable health limitations; mean subjective health is 7.7 on a scale from 0-10). Completed education varied from lower levels (i.e., 10 years or less, 23%) and middle levels (between 11 and 14 years, 41%) to higher levels (15 years or more, 36%).

### Measures

**Demographic variables.** We asked for completed educational level in accordance with the Dutch educational system (primary school, lower vocational level, lower secondary level, higher secondary level, middle vocational level, higher vocational level, university).

**Physical health.** Physical health was assessed with both a subjective health questionnaire ("How would you rate your present health condition on a scale from 0 to 10?") and a measure of physical health limitations ("Are you limited in your daily life due to health problems, e.g. in household chores?" with three answering categories: "Not at all", "Slightly"; "Considerably").

**Personality.** Three personality traits, neuroticism, extraversion, and openness to experience were measured with a Dutch translation (Hoekstra,

Ormel, & de Fruyt, 1996) of Costa & McCrae's (1992) NEO-FFI. In the present study, the reliability (Cronbach alpha) was good (neuroticism = .86; extraversion = .82; openness to experience = .71).

**Well-being.** Well-being was measured with the Dutch Mental Health Continuum - Short Form (MHC-SF; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011). The MHC-SF consists of fourteen items which correspond to theoretical formulations of emotional, psychological, and social well-being (Keyes, 2005). Sample items are *'In the past month, how often did you feel: ...happy?; ...that your life has a sense of direction or meaning to it? ...that people are basically good?'*. There were six answering categories ranging from almost never to every day. The scale proved to have good concurrent and discriminatory validity (Lamers et al., 2011), and in the present sample Cronbach's alpha = .89.

**Wisdom.** Wisdom was measured with the Self-Assessed Wisdom Scale (SAWS; Webster, 2013; Webster, Westerhof, & Bohlmeijer, 2012) a 40-item questionnaire reflecting the following five components of wisdom: Critical life experiences: *"I have experienced many painful events in my life"*; Reminiscence/reflectiveness: *"Reviewing my past helps me gain perspective on current concerns"*; Openness to experience: *"I like to read books which challenge me to think differently about issues"*; Emotional regulation: *"I am very good about reading my emotional states"*; and Humor: *"Now I find that I can really appreciate life's little ironies"*. Participants respond to each question using a Likert type scale where 1 = *strongly disagree* to 6 = *strongly agree*. Cronbach's alpha for the total SAWS in this study was .86.

**Time perspective.** Time perspective was measured with the Balanced Time Perspective Scale (BTPS; Webster, 2011; Webster & Ma, 2013). The BTPS is a 28 - item scale containing two, 14 - item subscales, one reflecting a positive past orientation and one reflecting a positive future orientation. Participants respond to each item on a 6-point Likert type scale where 1 = *strongly disagree* and 6 = *strongly agree*. Sample items of the former include, *"Reviewing events from my past helps give my life meaning"*, and *"Seeing how the pieces of my past come together gives me a sense of identity"*. Sample items of the latter include, *"Creating a positive future is something I often think about"*, and *"Looking ahead really gets me energized"*. Cronbach's alpha for the past subscale of the BTPS in this study was .90 and for the future subscale it was .93.

Currently, there are two ways to produce scores on the BTPS. The first is the creation of 4 categories (time restrictive, reminiscers, futurists, and time

expansive) via median splits of the Past and Future subscales (see earlier description in introduction). The second scoring scheme is based upon suggestions by Zhang, Howell, & Stolarski (2013) in which a deviation, or distance, from optimal score is created for both the Past and Future subscales of the BTPS. Specifically, the optimal score for each item of both the past and future subscales of the BTPS is the maximum score available (i.e., 6) which indicates strong agreement with each BTPS item. Recall that each item expresses a positive orientation to either the past or future, so the maximum score of 6 is theoretically the optimal score. Given this, the formula for calculating a deviation from optimal score is  $BTP = (6 - M_{\text{past}}) + (6 - M_{\text{future}})$ . To illustrate, if a participant answers 6 ("strongly agree") to any item, then the deviation from the optimal score is zero ( $6 - 6 = 0$ ), whereas if they strongly disagree with a statement, then their deviation score is higher ( $6 - 1 = 5$ ). Therefore, a *low* total score means that there is little deviation from a person's responses and the theoretical optimal score.

## RESULTS

Our first hypothesis stated that younger adults have a more future oriented perspective and older persons a more past oriented perspective, but that a balanced time perspective is equally divided across age group. As can be seen from Table 1, the continuous measure for balanced time perspective is positively correlated with age (i.e. older persons have higher scores and thus a less balanced time perspective). Inspection of the BTP by age scatterplot suggested that the linear association might also contain a significant quadratic trend as well. A one-way ANOVA with age (young, midlife, older) as the independent variable confirmed that there was no difference between the young ( $M = 3.39, SD = 1.44$ ) and midlife ( $M = 3.34, SD = 1.46$ ) adults on the BTP, but both young and midlife adults scored significantly lower than older adults ( $M = 4.10, SD = 1.32$ ),  $F(2, 509) = 14.93, p = .000$ .



Table 1 *Descriptive statistics and zero-order correlations among main study variables*

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Age	46.46	21.37	--	-.045	-.262*	-.319*	.440*	-.100	-.160*	-.273*	-.009	-.081	.219*
2. Sex	1.64	.481		--	-.126	-.182*	.156*	.269*	-.028	-.031	.030	.027	-.008
3. Educ	4.53	1.58			--	.240*	-.255*	-.169*	.211*	.316*	.194*	.226*	-.240*
4. SH	8.67	1.30				--	-.635*	-.273*	.249*	.137	.073	.209*	-.248*
5. HL	1.38	.595					--	.257*	-.240*	-.138	-.029	-.186*	.254*
6. Neur	30.16	7.86						--	-.402*	-.047	-.185*	-.383*	.221*
7. Extra	42.00	6.59							--	.088	.345*	.442*	-.396*
8. Open	38.22	6.32								--	.463*	.247*	-.238*
9. SAWS	171.87	21.90									--	.445*	-.580*
10. MHC	55.27	11.84										--	-.478*
11. BTP	3.59	1.45											--

Note: Educ = Education Level; SH = Subjective Health; HL = Health Limitations; Neur = Neuroticism; Extra = Extraversion; Open = Openness; SAWS = Self-Assessed Wisdom Scale; MHC = Mental Health Continuum-Short Form; BTP = Balanced Time Perspective. \* =  $p < .05$ , Bonferroni corrected.

Following Webster (2011) and Webster and Ma (2013), we created 4 categories based upon a median split of the Past and Future subscales of the BTPS and cross-tabulated this variable with age group. The relation between age groups and time perspective was significant,  $\chi^2(6) = 106.2, p = .000$ , Cramer's  $V = .322$ . As expected, older persons were more often reminiscers (34.0%) than middle-aged (11.8%) and younger adults (2.3%). Younger persons were more often future oriented (30.9%) than middle-aged 16.3% and older persons (3.1%). Contrary to our hypotheses, older persons (22.6%) were less often in the time expansive category than younger (37.7%) or middle aged persons (40.4%). We can conclude that our first hypothesis is confirmed with regard to the futurists and reminiscers categories, but only partially for the time expansive category.

Our second hypothesis was that balanced time perspective is related to higher levels of well-being and wisdom and our third hypothesis was that these relations are found in all age groups. As can be seen in Table 1, the continuous measure for balanced time perspective is negatively correlated with both mental health and wisdom: a lower score on BTP (i.e., a more balanced time perspective) is related to higher levels of well-being and wisdom, as hypothesized. We then conducted a separate 3 (age group: young, midlife, older) by 4 (BTPS category: time restrictive, reminiscers, futurists, time expansive) ANOVA on each of the two dependent variables (mental health and wisdom).

For the dependent variable of mental health, the results show a main effect for both age and BTPS category. The interaction was not significant. As can be seen in Figure 1, midlife adults score higher ( $M = 59.04$ ,  $SD = 10.56$ ) than both younger ( $M = 54.39$ ,  $SD = 11.51$ ) and older adults ( $M = 52.03$ ,  $SD = 12.45$ ), who do not differ from each other,  $F(2, 500) = 7.00$ ,  $p = .001$ , partial eta squared = .027. In terms of BTPS categories, as predicted, the time expansive category ( $M = 60.01$ ,  $SD = 10.82$ ) scored significantly higher than the time restrictive ( $M = 49.53$ ,  $SD = 12.28$ ) and reminiscers ( $M = 54.97$ ,  $SD = 10.11$ ) categories, but not significantly higher than the futurist category ( $M = 57.34$ ,  $SD = 9.47$ ),  $F(3, 500) = 27.06$ ,  $p = .000$ , partial eta squared = .140.

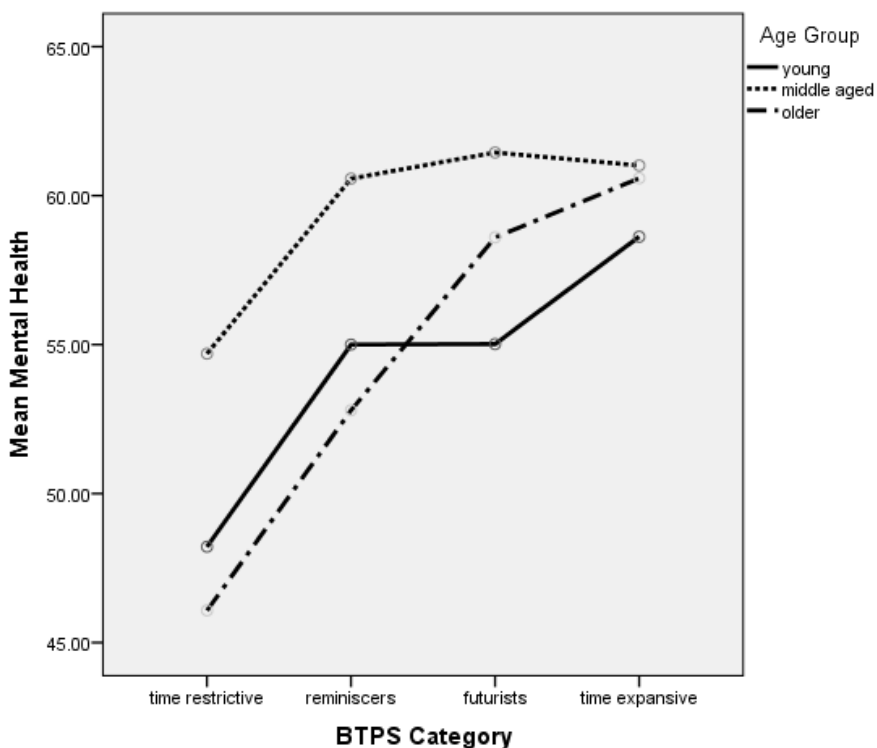


Figure 1 Mean mental health as a function of age group and BTPS Category

For the dependent variable of wisdom, there is a main effect for both age and BTPS category. The age group by time category interaction is not significant. As can be seen in Figure 2, with respect to age, midlife adults score significantly higher on wisdom ( $M = 177.69$ ,  $SD = 21.62$ ) than either the young ( $M = 169.08$ ,  $SD$

= 21.62) or older adults ( $M = 168.44, SD = 21.33$ ) who do not differ significantly from each other,  $F(2, 500) = 4.78, p = .009$ , partial eta squared = .019. With respect to BTPS categories, the time expansive category ( $M = 184.67, SD = 19.37$ ) was significantly higher than the time restrictive ( $M = 158.91, SD = 20.47$ ), reminiscer ( $M = 173.56, SD = 17.25$ ), and futurist ( $M = 170.25, SD = 17.98$ ) categories,  $F(3, 500) = 48.30, p = .000$ , partial eta squared = .225. We can conclude that our second and third hypotheses are confirmed.

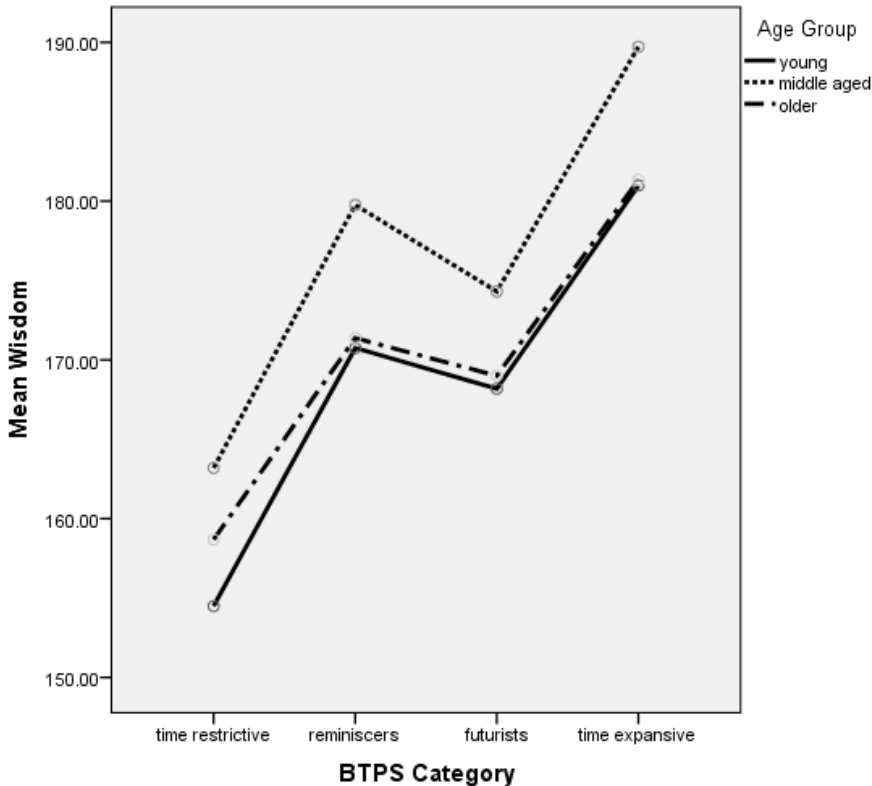


Figure 2 Mean wisdom as a function of age group and BTPS category

Our fourth hypothesis was that a BTP will account for additional unique variance in these two measures after accounting for demographic, health, and personality traits. Indeed, all study variables, with the exception of gender, were related to balanced time perspective (see Table 1). We conducted hierarchic regression analyses to determine whether a BTP accounted for unique variance in well-being and wisdom after accounting for demographic, health, and personality variables.

In terms of mental health we ran a hierarchic regression analyses with the demographic variables of education level, gender, and age as a block (see Table 2). In Model 1, the overall model was significant,  $F(3, 508) = 9.75, p = .000$ , and the demographic variables accounted for 5.4% of the variance in the dependent variable of mental health. Only education level was significant. In Model 2, we entered the health variables (subjective health and health limitations) as a block. The overall model was significant,  $F(5, 506) = 9.76, p = .000$ , with the health variables accounting for a further 3.4% of the variance. Gender, education level, and subjective health achieved significance. In Model 3, we added the personality variables of neuroticism, extraversion, and openness. The overall model was significant,  $F(8, 503) = 27.90, p = .000$ , with the personality factors accounting for an additional 21.9% of the variance. Gender, and all three personality traits achieved significance. Finally, in Model 4, we entered the balanced time perspective score. Overall, the model was significant,  $F(9, 502) = 33.89, p = .000$ , with BTP accounting for an additional 7.1% of the variance in mental health. In the final model, gender, all three personality traits, and BTP were significant predictors of well-being.

Table 2 Hierarchic regression on mental health continuum - short form

Variable	Model 1			Model 2			Model 3			Model 4		
	Beta	t	sig	Beta	t	sig	Beta	t	sig	Beta	t	sig
Age	-.019	-.418	.676	.0581	.194	.233	.039	.854	.393	.058	1.358	.175
Sex	.055	1.262	.208	.094	2.139	.033	.132	3.351	.001	.111	2.958	.003
Educ	.228	5.045	.000	.197	4.373	.000	.070	1.699	.090	.047	1.192	.234
HL				-.085	-1.457	.146	-.008	-1.159	.254	.011	.222	.825
SH				.143	2.569	.010	.052	1.049	.295	.031	.662	.508
Neur							-.256	-5.729	.000	-.234	-5.514	.000
Extra							.302	7.157	.000	.212	5.069	.000
Open							.192	4.806	.000	.147	3.811	.000
BTP										-.304	-7.548	.000
R		.233			.297			.554			.615	
R <sup>2</sup>		.054			.088			.307			.378	
ΔR <sup>2</sup>		.054			.034			.219			.071	
F		9.756**			9.764**			27.906**			33.897**	

Note: \*\* =  $p < .001$ ; Educ = Education Level; SH = Subjective Health; HL = Health Limitations; Neur = Neuroticism; Extra = Extraversion; Open = Openness; SAWS = Self-Assessed Wisdom Scale; MHC = Mental Health Continuum-Short Form; BTP = Balanced Time Perspective.

With respect to wisdom, in Model 1 we entered the demographic variables of education level, gender, and age as a block. As can be seen from Table 3, the overall model was significant,  $F(3, 508) = 7.61, p = .000$ , and accounted for 4.3% of the variance in wisdom scores. However, only education level reached significance. In Model 2, we entered the health variables (subjective health and health limitations) as a block. The overall model remained significant,  $F(5, 506) = 4.94, p = .000$ , but the additional .4% of variance explained by these health variables was not significant. In Model 3, we added the personality variables of neuroticism, extraversion, and openness. Overall, the model was significant,  $F(8, 503) = 32.84, p = .000$ , and personality accounted for an additional 29.7% of variance explained in wisdom scores. However, the personality trait of neuroticism was not significant, while age was. Finally, in Model 4, we added the balanced time perspective score. Overall, the model was significant,  $F(9, 502) = 61.00, p = .000$ , and BTP accounted for an additional 17.9% of the variance in wisdom. In the final model, age, health limitations, extraversion, openness, and BTP were all significant. Therefore, our fourth hypothesis, that a balanced time perspective accounts for additional unique variance in both well-being and wisdom is confirmed.

Table 3 Hierarchic regression on wisdom

Variable	Model 1			Model 2			Model3			Model 4		
	Beta	t	sig	Beta	t	sig	Beta	t	sig	Beta	t	sig
Age	.050	1.109	.268	.057	1.139	.255	.155	3.517	.000	.186	4.946	.000
Sex	.059	1.343	.180	.067	1.484	.138	.069	1.799	.073	.035	1.075	.283
Educ	.215	4.728	.000	.209	4.534	.000	.032	.790	.430	-.005	.157	-.875
HL				.039	.648	.517	.059	1.173	.241	.090	2.079	.038
SH				.078	1.371	.171	.009	.188	.851	-.024	-.583	.560
Neur							-.046	-1.051	.294	-.011	-.296	.767
Extra							.317	7.714	.000	.173	4.732	.000
Open							.474	12.170	.000	.401	11.911	.000
BTP										-.484	-13.725	.000
R		.207			.216			.586			.723	
R <sup>2</sup>		.043			.047			.343			.522	
ΔR <sup>2</sup>		.043			.004			.297			.179	
F		7.616**			4.948**			32.846**			61.004**	

Note: \*\* =  $p < .001$ ; Educ = Education Level; SH = Subjective Health; HL = Health Limitations; Neur = Neuroticism; Extra = Extraversion; Open = Openness; SAWS = Self-Assessed Wisdom Scale; MHC = Mental Health Continuum-Short Form; BTP = Balanced Time Perspective.

## DISCUSSION

In this study, we investigated an important and under-examined area in aging studies, namely the relationship of a balanced time perspective across young, midlife, and older adulthood, with well-being and wisdom. We confirmed our hypotheses that younger adults focus more on their future and older persons on their past. Although older persons do have a somewhat less balanced time perspective than middle-aged and younger persons, nearly one in four older adults (i.e., 22.6%) were classified in this category. In line with our second and third hypotheses, BTP is related to well-being and wisdom across age groups, and even more so than a positive perspective on the past or the future alone. As hypothesized, BTP explains additional variance in well-being and wisdom beyond other individual characteristics.

By drawing on our past, we can remember times in which we were successful in coping with problems, see how we have changed or grown in positive directions over time, and maintain pleasant and happy memories concerning loved ones. These are all ways in which autobiographical memories can enhance the psychological, emotional, and social well-being of persons as we develop across adulthood. Similarly, imagining future goals, dreaming about later successes to come, and anticipating exciting and meaningful achievements, are all ways in which a positive future orientation can contribute to mental health.

The same conclusions can be reached in relation to a BTP and wisdom. Wise persons learn from their past, and reminisce in order to regulate emotions, and resolve (or work on) challenging or traumatic events from earlier in life. Wise persons also recognize the positive motivational consequences of setting long term goals and nurture an optimistic and expansive future orientation. Importantly, however, the data we present demonstrates that it is not just a positive past orientation (reminiscers), or a positive future orientation (futurists) in isolation which produces the most salubrious effects; rather, both the ANOVA and regression findings illustrate that it is a balanced, high level of each in combination which produces the maximum levels of well-being. In other words, current well-being is strongly associated with positive diachronous evaluations of our perceived past and imagined future (e.g., Karniol & Ross, 1996; Staudinger, Bluck, & Herzberg, 2003).

Our findings show both similarities and important differences from other studies on time perspective. In terms of similarities, for instance, using the ZTPI,

Zhang and Howell (2011) found that a positive past orientation was negatively correlated with neuroticism, and positively correlated with life satisfaction, extraversion, and openness. Similarly, in the current study, the BTPS past subscale was negatively correlated with neuroticism, and positively correlated with extraversion, mental health, and wisdom. These results support the contention that a positive past orientation is associated with adaptive personality traits and wellbeing. Interestingly, however, despite such similar findings using the ZTPI and BTPS, the past subscales of these two instruments only correlate .43 (Webster, 2011) suggesting they are tapping somewhat different conceptions of the past.

Differences emerge when focusing on the future. For the ZTPI future subscale, the relationship with wellbeing is sometimes inconsistent. For instance, Zhang and Howell (2011) and Dunkel and Weber (2010) found, respectively, that the future subscale was not negatively correlated with neuroticism, or indeed, was positively correlated with neuroticism. These findings are clearly inconsistent, or contrary, to expectations regarding the positive nature of anticipating the future. Moreover, the ZTPI future subscale is often strongly correlated with the personality trait of conscientiousness (e.g., .67: Dunkel & Weber, 2010; .54: Zhang & Howell, 2011), as well as a social desirability bias (Webster, 2011). Items from the scale include, *“It upsets me to be late for appointments”* suggesting that the ZTPI future subscale may measure, in part, a type of anxiety about unmet commitments and stressful responsibilities in addition to more positive dimensions (Carelli, Wiberg, & Wiberg, 2011).

In contrast, the future subscale of the BTPS is negatively correlated with neuroticism, and positively with extraversion, openness, wellbeing, and wisdom. Moreover, the correlation between the ZTPI and BTPS future subscales is only .32 (Webster, 2011) suggesting that they each measure somewhat different facets of a future orientation. For instance, the BTPS future subscale has a stronger affective component, reflecting positive emotions such as excitement, optimism, energy, and hope. As such, the BTPS past and future subscales are balanced in the sense of affective quality, whereas there seems to be an imbalance in the ZTPI subscales of a nostalgic past focus and a dutiful future focus.

As noted earlier, very few studies have examined a balanced time perspective, particularly in older adults. Most of those studies have used the ZTPI, which as described above, has some limitations when used for this purpose. Consequently, integrating our findings with directly relevant literature is difficult. Nevertheless, at a general level, our results are consistent with previous findings

(e.g., Boniwell et al., 2010; Desmyter & De Raedt, 2012; Drake et al., 2008; Gao, 2011; Stolarski et al., 2013) that a balanced time perspective is associated with positive outcomes including happiness, life satisfaction, and higher mood. To this list we can now add mental health and wisdom.

Additionally, our results, at least with respect to a future orientation, are in line with findings from socioemotional selectivity theory (SST), particularly as they relate to age differences and wellbeing. Our finding that older adults, on average, score lower on the BTPS future subscale is entirely consistent with findings using the FTP scale in which older adults also score lower. Beyond this basic link, however, direct comparison of the current findings to SST findings are complicated by the fact that these two areas are assessing different components of time. In SST, it is the perception of time remaining, as measured by the FTP (which does not directly assess affective components of time); in contrast, the BTPS does not directly assess the perception of time left, but rather the cognitive, emotional, and motivational aspects of a perceived positive past and future. It remains an open empirical question as to whether, and how, a FTP (as conceptualized within SST) and a BTP are associated.

Moreover, this study provides new insights into how young, midlife, and older adults perceive their past and future and the attendant well-being outcomes of such temporal perspectives. In contrast to deeply entrenched stereotypes suggesting older adults only live in the past, and younger adults only live for the future, our results demonstrate that reminiscing is important to younger adults and a positive future orientation is important to elderly adults. Nevertheless, our findings are consistent with earlier studies in which there is an average tendency for younger adults to be more future and less past oriented, while older adults are more past and less future oriented.

Midlife adults fell between younger and older adults on both the futurists and reminiscers categories. In contrast to Webster & Ma (2013) however, midlife adults were higher than older adults in the time expansive category, and also higher in an absolute sense (40.4% versus 37.7%) than younger adults in the time expansive category, but this latter finding was not a statistically significant difference. The reason for this inconsistent finding for midlife adults between Webster and Ma (2013) and the current study is unclear. At least three elements may contribute to the discrepant finding. Specifically, sample characteristics (Dutch versus American), use of a translation of the BTPS in the current project, and difference in median cutoff values for the past and future subscales in each study



(which determined the percentage of persons who exceeded the cutoff values and hence were assigned to different BTPS categories across the two studies).

Nevertheless, findings from this study suggest that midlife adults may be uniquely positioned in the lifespan with respect to time perspective, accumulating as they have a rich and extensive past upon which they can draw and reflect, while at the same time remaining in active pursuit of valued future goals. As such, middle-aged adults have both the resources and motivation to seek a balanced time perspective, and this may contribute to increased well-being. In fact, midlife adults score highest on both mental health and wisdom in this study (for an expanded discussion of these age differences in wisdom and mental health, see Webster, Westerhof, & Bohlmeijer, 2012).

One explanation for age differences in temporal orientation is the simple statistical fact that older adults, on average, are closer to death and therefore do in fact have a shorter future. This does not preclude, however, as our results indicate, older adults being optimistic about, and engaged in, thinking about their future. Another intriguing and more nuanced possibility is suggested by recent findings on forecasting future life satisfaction. Lang, Weiss, Gerstorf, & Wagner (2013), found that in a large, lifespan sample, older adults underestimated their subsequent life satisfaction five years in the future. These somewhat pessimistic predictions were associated with lower levels of morbidity and mortality. Anticipating a positive future for older adults, therefore, is tempered by life experiences in which unbridled enthusiasm has led to disappointment. Given that the BTPS measures positive emotions, cognitions, and motivations about the future, wiser older adults are less likely to indiscriminately endorse such items relative to younger adults. Consequently, older adults are less likely to fall into the BTPS futurist category.

However, what seems most likely to contribute to enhanced well-being and increased wisdom is a balance between a positive past and positive future. In fact, a recent qualitative study of elderly Swedish men (Hedberg, Gustafson, Brulin, & Alex, 2013) concluded that "...very old men experience purpose in life mainly when *remembering the past* and when *making future plans*" (p. 104; italics added). Given the accumulating weight of our personal past as we age, it may become more difficult to strike a balance between what has come before and what we still expect to occur in our future. Nevertheless, it is still certainly possible and our results suggest the effort would be worthwhile.

## GENERAL LIMITATIONS AND CONCLUSIONS

Certain limitations constrain our conclusions. First, like all cross-sectional studies, we cannot determine whether the results are true developmental changes or cohort effects. Perhaps growing up in a time where average life expectancy was 60 years or so, places psychological limits on projecting oneself into the future. In contrast, persons growing up in a time of medical advances, lifestyle enhancements, and technical improvements, might anticipate living into their nineties and beyond, effectively extending their sense of the future. Longitudinal studies are needed to disentangle developmental and cohort confounds. Further, there are obviously other possible predictors of well-being not included in the present study (e.g., relationship and occupational satisfaction, additional personality traits).

Additionally, with respect to the BTPS itself, we acknowledge a possible limitation in assigning persons to categories on the basis of a median split. The most important, perhaps, is that the median is sample specific and consequently the numbers of persons assigned to the time restrictive, reminiscer, futurist, and time expansive categories may differ from study to study. This potential shortcoming is not limited to the BTPS but applies to the ZTPI as well when the latter is used to assess a balanced time perspective. The establishment of norms which could then be applied consistently across all future studies would eliminate this problem. We note that the medians employed in the current study are in fact relatively similar to those calculated in Webster & Ma (2013) which serves to attenuate concern over this issue to a certain degree. We note further that the calculation of the deviation from optimal score with the BTPS is not sample specific and therefore future studies can be directly compared on this measure.

Finally, it will be interesting to examine in more detail the meaning, both conceptually and empirically, of the time restrictive category. Is it the same as some form of present orientation? For instance, the present fatalistic subscale of the ZTPI is associated with many negative outcomes such as anxiety, depression, and neuroticism. Is the time restrictive category isomorphic with present fatalism? Indeed, we ran a supplemental analysis which showed that the time restrictive category was higher in neuroticism suggesting some intriguing similarities. What factors, then, might account for persons classifying themselves within such a temporal orientation. Some younger persons, for instance, may feel overwhelmed by choices, career pressures, and relationship stresses and thereby succumb to a fatalistic orientation. Older adults, confronted with health limitations, shrinking

social networks, and increased financial burdens may also focus on an immediate, day to day existence as a means to avoid recalling bitter memories and imagining bleak futures. Future studies could directly assess this by comparing the BTPS categories with the ZTPI fatalistic category as a start.

Despite these limitations, the results are promising in that they suggest possible intervention strategies that may be of particular efficacy for older adults. Although somewhat premature to detail specific therapeutic techniques, an encouraging area for future research will be to investigate how increasing a balanced time perspective might ameliorate negative psychological outcomes such as anxiety and depression. Those older adults with a limited future time perspective, for instance, may be experiencing narrative foreclosure (Bohlmeijer, Westerhof, Randall, Tromp, & Kenyon, 2011), a sense that life holds no new tasks, goals, or opportunities. Consequently, despair, rather than optimism and excitement, pervade everyday cognitions. By challenging such individuals to accommodate to changing abilities and opportunities, new realistic goals can be negotiated and provide a renewed sense of hope for the future. For instance, Korte, Bohlmeijer, Westerhof, Cappeliez, & Smit (2012) found that both reviewing one's past and focusing on developing meaningful future goals was effective in reducing depression among adults between 60 and 80 years of age.

As a corollary, we know that reminiscence therapy or life review is therapeutic (e.g., Korte, Westerhof, & Bohlmeijer, 2012; Westerhof, Bohlmeijer, & Webster, 2010). From a lifespan perspective it may be adaptive for younger, future-oriented adults to more frequently reminisce about prior strengths, accomplishments, and lessons learned. In combination with a powerful urge to look forward, such autobiographical reflections might facilitate a more balanced time perspective in younger adults. Some combination, then, of drawing strength from our past and anticipating realistic future goals may prove to be an effective approach for adults of all ages. It may, in fact, allow one to "flourish" (Keyes, 2002).

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# CHAPTER 5

## Wisdom and mental health across the lifespan

Webster, J. D., Westerhof, G. J., & Bohlmeijer, E. T. (2014). Wisdom and mental health across the lifespan. *Journals of Gerontology: Psychological Sciences*, 69(2), 209–218.



## ABSTRACT

**Objectives.** The relationships between wisdom and age, and between wisdom and mental health are complex with empirical results often inconsistent. We used a lifespan sample and broad, psychometrically sound measures of wisdom and mental health to test for possible age trends in wisdom and its subcomponents as well as the relationship between wisdom and hedonic and eudaimonic aspects of well-being. **Methods.** Participants included 512 Dutch adults ranging in age from 17 - 92 ( $M_{age} = 46.46$ ,  $SD = 21.37$ ), including 186 males and 326 females. Participants completed measures of wisdom, physical health, mental health, and personality. **Results.** Significant quadratic trends indicated that middle-aged adults scored higher on wisdom than younger and older adults. Investigation of wisdom subcomponents illustrated that a complex pattern of increases and decreases in different aspects of wisdom helped account for these age findings. Bivariate correlations showed the expected positive association between wisdom and mental health. Hierarchic regression analyses indicated that the positive association between wisdom and mental health remained significant after accounting for demographic variables (i.e., sex, age, education) and personality traits (i.e., neuroticism, extraversion, and openness to experience). **Discussion.** Age trends in the components of wisdom (older adults higher in life experience but lower in openness relative to younger and middle-aged adults) help explain the curvilinear pattern showing an advantage in wisdom for middle-aged adults. The greater association between wisdom and eudaimonic well-being suggests that wise persons enhance mental health by pursuing meaningful activities.

*Key words.* Wisdom, mental well-being, age differences, personality, hedonic well-being, eudaimonic well-being.

## WISDOM AND MENTAL HEALTH ACROSS THE LIFESPAN

Wisdom is an ancient concept (e.g., Birren & Svensson, 2005; Jeste & Vahia, 2008; Karelitz, Jarvin, & Sternberg, 2010; Osbeck & Robinson, 2005) which, until recently, has remained relatively under-examined by mainstream psychology (Sternberg, 1990; Sternberg & Jordon, 2005). Since pioneering work in the late 1970's and early 1980's, however, (e.g., Clayton & Birren, 1980; Sternberg, 1985) there has been a steady increase in conceptualization, measurement, and empirical investigations of wisdom. This growth, triggered in part by a contemporary emphasis on positive psychology, has taken many forms (Staudinger & Gluck, 2011) reflecting the emerging vitality of the field. One of the positive outcomes of contemporary scholarship is the growing consensus concerning a definition of wisdom.

Recently, Jeste, Ardel, Blazer, Kraemer, Vaillant, and Meeks (2010) conducted a two-stage Delphi method using a sample of wisdom experts. Results revealed "...a remarkable consensus..." (p. 676) among expert panel members concerning several components of wisdom (e.g., differentiation from related constructs such as intelligence and spirituality) as well as characteristic features of wisdom and wise persons. Wisdom is generally considered a multidimensional construct in which life lessons learned via evaluative reflection enable individuals to not only grow individually, but to contribute to the common good as well.

The type of life lessons which ostensibly contribute to wisdom development accrue over time, a fact giving rise to the common perception that wisdom must therefore increase with age. Although age and experience are positively correlated, experience per se does not necessarily produce wisdom. In fact, the type of experience, one's inclination to reflect upon and evaluate such events, and the competence to learn and grow from adversity (among other issues) are more influential in wisdom development than experience (and therefore age) alone (Webster, 2003).

The relationship between wisdom and aging is complex (e.g., Ardel, 2011; Jordan, 2005; Richardson & Pasupathi, 2005; Staudinger, 1999), with some theoretical models postulating a positive association with aging and wisdom (e.g., Erikson, 1963), others (e.g., Meacham, 1990) postulating a loss of wisdom in older adulthood, and others still postulating a peak in midlife (Sternberg, 2005). Whether, and how, wisdom develops with age, therefore, remains an open question.

Part of this lack of resolution may be due to differences in measures of wisdom used, the characteristics of samples employed, and even the definition of what constitutes *older adulthood*, across various studies. For instance, with respect to the latter, Karelitz et al. (2010) perceptively note that, given changes in average lifespan and the physical and mental health improvements accompanying such changes, what was once considered as older adulthood is now considered late middle age by contemporary researchers. So, for instance, 65-year old participants in studies conducted in the 1980's were most likely considered elderly and were likely to be in poorer health compared to 65 year old persons today, who might very well be considered late middle-aged by current research standards. Direct comparisons between older adults across earlier and later studies, therefore, can be problematic.

Despite positive lay stereotypes, and some researcher expectations much empirical evidence is inconsistent with an older and wiser outcome (e.g., Baltes, Staudinger, Maercker, & Smith, 1995; Brugman, 2006; Staudinger, 1999), prompting some researchers (e.g., Pasupathi, Staudinger, & Baltes, 2001; Webster, 2010) to investigate the "seeds" of wisdom in younger adults. Precursors to, and emergent properties of, wisdom develop in late adolescence. Pasupathi et al. (2001), using the well-known Berlin Paradigm, found increases in wisdom-related behavior from late adolescence to approximately the late twenties, followed by little change throughout middle and early later adulthood. Webster (2003, 2007) found no association between age and wisdom as measured with the Self-Assessed Wisdom Scale (SAWS), a finding generally consistent with other questionnaire measures of wisdom (e.g., Taylor, Bates, & Webster, 2011). The latter findings, however, were simple bivariate correlations and it is possible that curvilinear relationships went undetected. According to Sternberg (2005) wisdom may develop along several possible pathways which follow similar trajectories to crystallized and/or fluid intelligence. One of these models follows a combined crystallized/fluid intelligence pathway. According to this model, crystallized intelligence increases with age to later adulthood after which it levels off until a few years before death. In contrast fluid intelligence reaches its peak in young adulthood, and thereafter declines with age, precipitously so near the end of life. Wisdom, then, increases with lived experiences, much like crystallized intelligence, but then at some point in early late life, limitations in cognitive, physical, and social resources contribute to a decline in wisdom. In the current study, we address this possible curvilinear relationship. Our first, and major, expectation is that wisdom does not have a linear, but a curvilinear relationship with age, with a peak in midlife.

The relationship between wisdom and mental health is also complex (e.g., Ardel, 2011; Richards & Hatch, 2011), and depends to an extent on the measures of wisdom used (e.g., questionnaire, self-narratives, think aloud protocols, and peer ratings; Redzanowski & Gluck, 2012), as well as the facets of well-being (e.g., values, happiness, life satisfaction) employed across studies. As one example, the theoretical relationship between wisdom and happiness is contentious (e.g., Bergsma & Ardel, 2011); some authors (e.g., Mansfield, McLean, & Lilgendahl, 2011; Staudinger & Gluck, 2011) contend that since wisdom is likely to develop through coping with negative life events, the development of a hedonistic type of happiness is certainly not guaranteed to occur later in life. Consistent with this position, studies using the Berlin Wisdom model and studies employing a transcendent wisdom measure (e.g., Mickler & Staudinger, 2008 and Wink & Helson, 1997, respectively) showed that life satisfaction and wisdom were unrelated. In contrast, studies by Kunzman and Baltes (2003) as well as Webster (2010) which examined the relationship between wisdom and values showed that those values associated with eudaimonic well-being (i.e., those focusing on personal growth, pursuit of meaning, positive contribution to others and society) were more strongly associated with wisdom relative to hedonistic values (e.g., pursuit of fun and pleasure for the self). Nevertheless, despite the various approaches and measures used, results are generally consistent with the theoretical expectation that wisdom provides a suite of psychosocial strengths which enable individuals to experience life optimally even in the face of less than ideal objective life circumstances (e.g., Ardel, 1997; Ardel & Oh, 2010; Le, 2011; Linley, 2003; Takahashi & Overton, 2002; Webster, 2010). It appears, then, that wise persons do enjoy personal pleasures, but are perhaps more concerned about growth, meaning, and contribution to others. Since the measure we use to assess well-being in this study allows for an examination of hedonistic as well as eudaimonic aspects of overall well-being (Keyes, 2005; Westerhof & Keyes, 2010) we expect that wisdom is related to positive mental health overall, and that the strength of the association between wisdom and eudaimonic well-being is stronger than that between wisdom and hedonistic well-being.

The present project builds upon and extends earlier work by including a non-North American (i.e., Dutch), lifespan sample, multiple personality indicators, and broad measures of both mental health and wisdom. Our two main hypotheses are (a) that total wisdom is related to age in a curvilinear fashion such that middle-aged adults, as a group, will score higher than both younger and older adults, and (b) that wisdom is positively related to overall mental health

when the latter is measured with instruments assessing emotional, social, and psychological well-being combined, and that this relationship holds even after accounting for demographic and personality factors.

## METHODS

### Participants

Participants consisted of 512 Dutch adults ranging in age from 17 - 92 years ( $M_{age} = 46.46$ ,  $SD = 21.37$ ), including 186 male and 326 females. Students (17 - 29 years) in an introductory personality psychology class participated themselves and then recruited two additional adults from a midlife group (30-59) and an older group (60-92). The sample was basically healthy (67.8% reported no health limitations, 26.4% slight limitations, and 5.9% considerable health limitations; mean subjective health is 7.7 on a scale from 0-10). Completed education varied from lower levels (i.e., 10 years or less, 23%) and middle levels (between 11 and 14 years, 41%) to higher levels (15 years or more, 36%). Older adults ( $M = 3.78$ ,  $SD = 1.87$ ) had significantly less education than both the midlife ( $M = 5.01$ ,  $SD = 1.51$ ) and younger ( $M = 4.73$ ,  $SD = 1.01$ ) adults,  $F(2, 509) = 30.52$ ,  $p < .01$ ,  $partial\ eta^2 = .107$ , who did not differ from each other.

### Measures

**Demographic variables.** We asked for completed educational level in accordance with the Dutch educational system (primary school, lower vocational level, lower secondary level, higher secondary level, middle vocational level, higher vocational level, university). We also asked for age and gender. As we were interested in curvilinear relationships as well, we also computed age-squared. To avoid collinearity between age and age-squared, age was centered on the mean.

**Physical health.** Physical health was assessed with both a subjective health questionnaire ("How would you rate your present health condition on a scale from 0 to 10?") and a measure of physical health limitations ("Are you limited in your daily life due to health problems, e.g. in household chores?" with three answering categories: "Not at all", "Slightly"; "Considerably").

**Personality.** Three personality traits, neuroticism, extraversion, and openness to experience were measured with a Dutch translation (Hoekstra, Ormel, & de Fruyt, 1996) of Costa & McCrae's (1992) NEO-FFI. In the present

study, the reliability (Cronbach's alpha) was good (neuroticism = .86; extraversion = .82; openness = .71).

**Well-Being.** Well-being was measured with the Dutch Mental Health Continuum - Short Form (MHC-SF; Lamers, Westerhof, Bohlmeijer, ten Klooster, & Keyes, 2011; Lamers, Glas, Westerhof, & Bohlmeijer, 2012). The MHC-SF consists of fourteen items which correspond to theoretical formulations of emotional, psychological, and social well-being (Keyes, 2005). Sample items are *'In the past month, how often did you feel: ...happy?; ...that your life has a sense of direction or meaning to it? ...that people are basically good?'*. There were six answering categories ranging from almost never to every day. The scale proved to have good concurrent and discriminatory validity (Lamers et al., 2011). Analyses based on Item Response Theory showed that there is no substantial differential item functioning across sociodemographic variables, physical and mental illness, nor across time (Lamers et al., 2012). Hence, the items are interpreted in a similar way by people from various backgrounds in Dutch society at different points in time. The overall MHC-SF is highly reliable in the present sample (Cronbach's alpha = .89), as is the hedonistic subscale (comprised of the emotional well-being items of the MHC-SF; Cronbach's alpha = .85) and the eudaimonic subscale (comprised of the psychological and social well-being items of the MHC-SF; Cronbach's alpha = .86).

**Wisdom.** Wisdom was measured with the Self-Assessed Wisdom Scale (SAWS; Webster, 2003, 2007) a 40-item questionnaire reflecting the following five components of wisdom (sample items are italicized) : Critical life experiences: *"I have experienced many painful events in my life"*; Reminiscence/reflectiveness: *"Reviewing my past helps me gain perspective on current concerns"*; Openness to experience: *"I like to read books which challenge me to think differently about issues"*; Emotional regulation: *"I am very good about reading my emotional states"*; and Humor: *"Now I find that I can really appreciate life's little ironies"*. Participants respond to each question using a Likert type scale where 1 = *strongly disagree* to 6 = *strongly agree*.

The SAWS has excellent reliability (i.e., test-retest and internal consistency) and various forms of validity. With respect to the latter, the SAWS predicts levels of foolishness (negatively), generativity, and ego integrity (Webster, 2007), positive psychosocial values such as personal growth and sense of coherence (Webster, 2010), civic engagement and altruism (Bailey & Russell, 2009), benefit finding in cancer patients (Costa & Pakenham, 2011), forgiveness, psychological well-being, and a lack of a socially desirable response style (e.g., Taylor, Bates, & Webster, 2011), a balanced time perspective (Webster, Bohlmeijer, & Westerhof,

2011) and identity processing styles (Webster, under review). Cronbach's alpha for the total SAWS in the current study was .91, and for the experience, emotional regulation, reminiscence/reflectiveness, humor, and openness subscales, respectively, Cronbach's alphas were .83, .81, .85, .82, and .74.

## RESULTS

We first analyzed the data to confirm bivariate associations for the expected relationships. Next, we tested for quadratic trends between age and wisdom in a series of curve estimation regressions, first for the total wisdom score and then for each of the SAWS subscales. Finally, we used hierarchic regression analyses to determine whether wisdom explained additional unique variance in mental health beyond demographic and personality variables.

Bivariate correlational results, as can be seen in Table 1, support our predictions. First the linear association between wisdom and age is non-significant, whereas the curvilinear relationship (i.e., age<sup>2</sup>) is significant, and remains so even after controlling for education level,  $r(509) = -.165, p < .001$ . We discuss these age findings in more detail in the regression results below. Second, the correlation between total wisdom and mental health was positively correlated. Additionally, the correlation between wisdom and hedonic aspects of mental health ( $r(512) = .300$ ) as well as the correlation between wisdom and eudaimonic aspects of mental health ( $r(512) = .443$ ) were both significant. Moreover, the difference in strength between these two correlations is also statistically significant (Steiger's  $Z = -6.84, p < .01$ ), a point we return to in the discussion section.

Table 1 *Descriptive statistics and bivariate correlations for main demographic and study variables*

	<i>M</i>	<i>SD</i>	<i>Sex</i>	<i>Age</i>	<i>Age</i> <sup>2</sup>	<i>Educ</i>	<i>HM</i>	<i>EM</i>	<i>MHC</i>	<i>Neur</i>	<i>Extr</i>	<i>Open</i>	<i>SAWS</i>
Sex	--	--	--	-.045	-.017	-.126	-.004	.033	.027	.269	-.028	-.031	.030
Age	46.46	21.38		--	.069	-.262	-.072	-.075	-.081	-.100	-.160	-.273	-.009
Age <sup>2</sup>	456.19	395.93			--	-.384	-.177	-.244	-.248	.120	-.082	-.212	-.224
Educ	4.53	1.58				--	.178	.217	.226	-.169	.211	.316	.194
HM	13.55	2.93					--	.576	.730	-.418	.382	.191	.300
EM	41.72	9.90						--	.979	-.334	.415	.238	.443
MHC	55.28	11.84							--	-.383	.442	.247	.445
Neur	30.17	7.87								--	-.402	-.047	-.185
Extr	42.00	6.59									--	.088	.345
Open	38.22	6.32										--	.463
SAWS	171.88	21.91											--

Note: Sex (Males = 1, Females = 2); Age<sup>2</sup> = age squared; Educ = education level; HM = hedonistic mental health; EM = eudaimonic mental health; MHC = Mental Health Continuum -SF; Neur = neuroticism; Extr = extraversion; Open = openness to experience; SAWS = Self-Assessed Wisdom Scale. Correlations at or above .15 are statistically significant at the .05 level after Bonferroni correction.

With respect to personality traits, wisdom is negatively correlated with neuroticism and positively with extraversion, and openness. Finally, higher levels of education are associated with higher levels of wisdom, but wisdom is unrelated to gender. Mental health showed similar relationships among demographic and personality variables as did wisdom. Specifically, mental health was uncorrelated with gender, curvilinearly related to age, negatively correlated with neuroticism, and positively correlated with extraversion, and openness, as well as the demographic variable of education level. Given the significant curvilinear relationship between age and total wisdom score, we conducted a series of regression analyses in which we used curve estimation procedures to assess quadratic trends in the age by wisdom relationship.

Figure 1 (a - f) illustrates the trends apparent in the scatterplots for the total wisdom score (a) and for the five subscales of the SAWS separately (b - f). Figure 1a shows the relationship between age and total wisdom score. The quadratic trend is significant ( $Beta = -.23, p < .001$ ). Total wisdom increases from younger adulthood, reaches a peak in midlife, and thereafter declines. Since this type of curvilinear relationship is an important new finding, we examined the age profiles for each of the SAWS subscales separately in order to determine what might be driving this overall relationship.

As can be seen in Figure 1b, the quadratic trend for critical life experience is significant ( $Beta = -.13, p < .005$ ). Critical life experiences increase in age from young adulthood to midlife, after which they level out or slightly increase in older adulthood. Figure 1c shows a significant quadratic trend in emotional regulation ( $Beta = -.22, p < .001$ ). Emotional regulation increases from young adulthood, peaks in midlife, after which it declines to levels similar to younger adults. Figure 1d shows a significant quadratic trend for openness ( $Beta = -.23, p < .001$ ). Scores from young adulthood to midlife are initially high and stay stable, after which openness declines in older adulthood. Figure 1e shows a significant quadratic trend for humor ( $Beta = -.17, p < .001$ ). Scores from young adulthood to midlife are initially high and stay stable, after which humor declines in older adulthood. Finally, Figure 1f shows the non-significant quadratic trend for reminiscence ( $Beta = -.06, p > .05$ ). Younger, midlife, and older adults all show a similar level of engagement with reminiscence and life reflection.





Figure 1a Quadratic trend in wisdom as a function of age



Figure 1b Quadratic trend in critical life experiences as a function of age

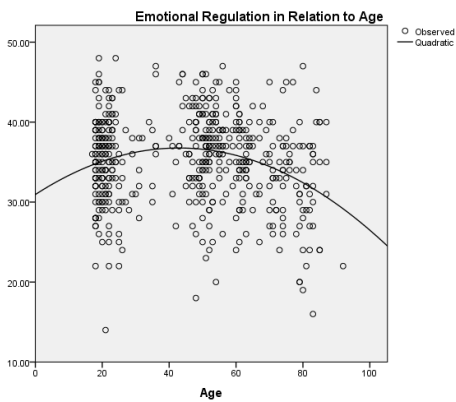


Figure 1c Quadratic trend in emotional regulation as a function of age



Figure 1d Quadratic trend in openness as a function of age



Figure 1e Quadratic trend in humor as a function of age

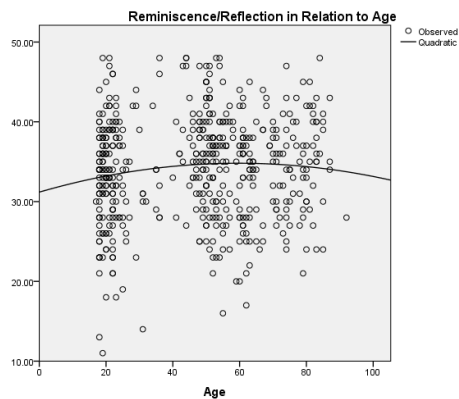


Figure 1f Quadratic trend in reminiscence/reflection as a function of age

In terms of well-being, the main finding that wisdom is positively correlated with mental health, supports our prediction at the bivariate level. However, some of the demographic variables and the three personality traits are interrelated with both mental health and wisdom. The question arises as to whether the association between wisdom and mental health remains statistically significant when accounting for these other variables. To investigate this issue, we conducted a hierarchic regression analysis on the dependent variable of mental health, entering demographic variables, personality traits, and wisdom as hierarchic blocks. The results support our hypothesis and can be seen in Table 2.

Table 2 Hierarchic regression on total Mental Health Continuum-Short Form (MHC-SF)

Variable	Model 1			Model 2			Model 3		
	Beta	t	sig	Beta	t	sig	Beta	t	sig
Sex	.042	.974	.331	.111	2.884	.004	.095	2.532	.012
Age	-.026	-.591	.555	.012	.303	.762	-.033	-.830	.407
Age <sup>2</sup>	-.187	-4.049	.000	-.145	-3.600	.000	-.115	-2.938	.003
<u>Educ</u>	<u>.152</u>	<u>3.160</u>	<u>.002</u>	<u>.022</u>	<u>.518</u>	<u>.605</u>	<u>.026</u>	<u>.621</u>	<u>.535</u>
Neur				-.257	-6.009	.000	-.251	-6.055	.000
Extr				.311	7.492	.000	.229	5.370	.000
<u>Open</u>				<u>.176</u>	<u>4.432</u>	<u>.000</u>	<u>.056</u>	<u>1.284</u>	<u>.200</u>
SAWS							.260	5.885	.000
<u>R</u>		<u>.290</u>			<u>.568</u>			<u>.605</u>	
<u>Adj. R<sup>2</sup></u>		<u>.077</u>			<u>.313</u>			<u>.356</u>	
<u>ΔR<sup>2</sup></u>		<u>.084</u>			<u>.238</u>			<u>.044</u>	
F		11.637*			34.256*			36.304*	

Note: \*p < .001; Sex (Males = 1, Females = 2); Age<sup>2</sup> = age squared; Educ = education level; Neur = neuroticism; Extr = extraversion; Open = openness to experience; SAWS = Self-Assessed Wisdom Scale.

In model 1, the demographic variables (gender, age, age-squared, and education) were entered as a block. The overall model, accounting for 7.7% of variance in mental health, was significant,  $F(4, 507) = 11.64, p < .001$ ; only age-squared and education level contributed to the explained variance. In model 2, the personality variables of neuroticism, extraversion, and openness to experience were entered as a block. The overall model, accounting for an additional 23.8% of the variance in mental health, was significant,  $F(7, 504) = 34.26, p < .001$ ; all three personality variables contributed to the explained variance. Finally, in model 3, we added the total wisdom score as a block. The overall model, accounting for an additional 4.4% of the variance in mental health, was significant,  $F(8, 503) = 36.30, p < .001$ . In the final model, gender, age squared, neuroticism, extraversion, and wisdom all significantly contributed to the explained variance in mental health scores. Age, education level, and the personality trait of openness to experience failed to contribute to explained variance.

## DISCUSSION

This study examined the relationship among wisdom, age, and mental health. We used a European, lifespan sample, employing a psychometrically sound measure of wisdom. Results both augment and extend prior research in this area.

Bivariate correlations show that, consistent with most previous findings using the SAWS, neither age nor gender were associated with wisdom (e.g., Taylor et al., 2011). Other questionnaire measures of wisdom report similar findings when only younger and older adults are compared directly. The inclusion of a midlife sample in the present study allowed us to extend previous findings. As expected, midlife adults scored highest on measures of wisdom, with younger and older adults scoring at the same average level. These findings are consistent with the combined crystallized/fluid intelligence model proposed by Sternberg (2005) described earlier. Such declines in later adulthood are seen in the Berlin wisdom paradigm as well (e.g., Baltes & Staudinger, 2000) and so are unlikely to be restricted to the particular measure used in the current study. We investigated this curvilinear trend in more detail by examining the age trends in each of the subscales of the SAWS separately.

We found that critical life experiences increased from young adulthood to middle-age. Thereafter, experiences continued to increase, but at a non-significant level, suggesting that the type of life events which ostensibly contribute to wisdom development accrue over time, a fact giving rise to the common perception that wisdom must therefore increase with age. Although age and experience are positively correlated, experience per se does not necessarily produce wisdom, as demonstrated in the current study. In fact, the quality of the experience, one's inclination to reflect upon such events, and the competence to grow from adversity (among other factors) are more influential in wisdom development than experience (and therefore age) alone.

Many of the life events indexed in the SAWS are strongly emotional in tone, and require emotional regulation strategies. We found that middle-aged adults scored higher than both the younger and older adults on the emotional regulation subscale. These findings are consistent with dynamic integration theory (DIT; Labouvie-Vief, 2009; Labouvie-Vief, Diehl, Jain, & Zhang, 2007) which differentiates between affect optimization and affect complexity. The former "...reflects an emphasis on maintaining hedonic tone by maximizing positive affect and minimizing negative affect in regulating emotions" (Labouvie-

Vief et al., p. 738). Age differences in this facet parallel those reported by others employing different conceptual orientations, such as socioemotional selectivity theory (e.g., Carstensen, 2006) in which older adults report similar, or slightly higher levels of happiness and life satisfaction relative to younger persons.

In contrast, affect complexity focuses on "...objectivity, personal growth, individuation, and emotional and conceptual complexity" (Labouvie-Vief et al., p. 738). Here, a curvilinear relationship with age is often found, with middle-aged adults scoring higher than both younger and older adults; these findings clearly mirror the present results. Thus, affect complexity is closer to eudaimonic, rather than hedonic, well-being. As such, affect complexity should have a stronger relationship to wisdom than affect optimization. Indeed, in the current study, we found that the association between wisdom and eudaimonic well-being was stronger than the association between wisdom and hedonistic well-being.

According to Labouvie-Vief et al. (2007), the reflective and executive processes that are required for affective monitoring are jeopardized by later life declines in cognitive resources. This suggests that the emotional resources required to sort through, evaluate, and eventually synthesize complex affective states remains immature in younger adulthood, peaks in middle-age, and then begins a decline after about age 60 due to the impaired cognitive resources identified by Labouvie-Vief and others. In order to fully examine powerful emotional experiences and appreciate and synthesize complex and nuanced emotional states, requires an openness to do so. We found age differences in the SAWS openness subscale scores as well.

Openness was lowest in the older adults in this sample. These results are consistent with personality findings, both cross-sectional and longitudinal, in which openness shows small declines with age (e.g., Donnellan, & Lucas, 2008; Pedersen & Reynolds, 1998; Stephan, 2009). Since openness is associated with curiosity, engagement in novel actions, and willingness to entertain complex and perhaps initially uncomfortable new opinions, it plays a strong role in the development and maintenance of wisdom. Small declines in older adulthood in this component, then, help explain the overall decrease in total wisdom reported in the current project. Openness also increases the likelihood that persons can laugh at themselves and not take themselves too seriously. As Erikson (cited in Friedman, 1999) stated, "I can't imagine a wise old person who can't laugh. The world is full of ridiculous dichotomies" (p. 468).

Unfortunately, there is little empirical evidence specifically investigating age differences in sense of humor (Ruch, McGhee, & Hehl, 1990). A relatively recent, large scale study of over 55,000 Norwegians, however, provides some preliminary evidence. Svebak, Martin, and Holmen (2004) administered a 3-item sense of humor scale, as part of a larger health study, to the entire population of adults 20 and older in a county in Norway. Results indicated that sense of humor and age was significantly, and negatively, correlated ( $r = -.29$ ). These results are consistent with our bivariate finding that age and humor was also negatively correlated ( $r = -.17$ ). Caution must be used in this comparison, however, as the type of humor assessed via the SAWS (i.e., a willingness to laugh at oneself, a pro-social type of humor used to put other persons at ease, and a sense of irony) are not identical to the type of humor assessed in Svebak et al. (2004). Notwithstanding these potential differences, Svebak et al. (2004) results corroborate our findings. Given the paucity of research on age differences in the sense of humor, theoretical explanations for the current results are difficult to identify.

One possible link is with openness, which as described above, shows a well-documented decline with age. In the current project, openness and humor are positively correlated ( $r = .55$ ) suggesting a link between the two. Ruch, McGhee, and Hehl (1990) also note a link between certain types of humor (e.g., incongruity-resolution versus nonsense humor) with personality traits such as conservatism and sensation seeking. The former personality dimension increases, and the latter personality dimension decreases, with age which helps explain the finding that older adults tended to prefer incongruity-resolution types of humor (which is simpler and has closure) in contrast to nonsense humor (which is more open-ended and ambiguous). Again, the results of Ruch et al., (1990) are relevant but not directly related to the type of humor measured by the SAWS, and so remain suggestive rather than definitive.

Finally, the findings on the reminiscence/reflectiveness component are consistent with results employing lifespan samples and using psychometrically sound measures of reminiscence (e.g., Webster, 1993, 2003; Webster, Bohlmeijer, & Westerhof, 2010). Using the Reminiscence Functions Scale (RFS; Webster, 1993) with adults ranging in age from late adolescence to the mid 90's, results consistently show that there are no age differences in total reminiscence score, but there are age differences on the subscores (the RFS assesses 8 different reminiscence functions). For instance, older adults tend to score higher on social functions of reminiscence, such as teaching others about their life experiences, whereas younger adults tend to score higher on self-related functions having to

do with identity formation, as well as a ruminative type of reminiscence associated with negative memories.

In summary, midlife adults score higher than both younger and older adults on certain sub-dimensions of wisdom (e.g., critical life experiences, emotional regulation, relative to younger adults; and openness, humor, and emotional regulation, relative to older adults). Midlife adults have a critical mass of life experiences as well as the cognitive strengths and emotional resources to process such events. Midlife is a time when adults are often at their peak in terms of earning power, crystallized intelligence, empathy (e.g., O'Brian, Konrath, Gruhn, & Hagen, 2012) and social engagement (e.g., caregiving for both older parents and younger children; colleague interactions at work). Moreover, physical health and cognitive resources (e.g., fluid intelligence) are also at high, albeit not maximum, strength. As such, they are both more likely to be in a position in which wise decisions and behaviors are required, as well as have the resources (e.g., cognitive, motivational, emotional) at their disposal to evince sagacity. In terms of mental health, bivariate correlations supported our prediction that wisdom would be positively correlated with overall well-being. These results are consistent with prior findings using the SAWS and psychological well-being (e.g., Taylor et al., 2011) as well as different measures of wisdom (e.g., 3-dimensional wisdom scale; Ardel, 1997) and life satisfaction. Our measure of mental health included the three components of emotional, social, and psychological well-being and wisdom has been associated with this broad measure of mental health.

For instance, wise persons have a rich and differentiated emotional life and can recognize and utilize both subtle nuances and gross feeling states to solve problems and adapt to their environment; moreover, wise individuals cultivate, nurture, and exercise positive social exchanges which have benefits for both themselves and others, as indicated by associations with wisdom and measures of forgiveness and generativity, for instance (e.g., Taylor, et al., 2011; Webster, 2010); finally, wise people, through their reflective, ironic, and perspective-taking abilities, are able to generally maintain feelings of self-efficacy, satisfaction, meaning, and purpose in life.

Our findings further our understanding of the relationship between wisdom and mental health by examining hedonistic and eudaimonic aspects separately. Wise persons do in fact, like the majority of adults, seek out and appreciate pleasure in life, as indicated by the significant positive correlation between wisdom and hedonistic elements of well-being in the current study. But

more than that, wise persons pursue the good life through the pursuit of meaning and purpose, as illustrated by the stronger correlation between wisdom and eudaimonic elements of well-being reported here.

Finally, the regression results are important in that they mitigate earlier concerns (e.g., Staudinger, Dorner, & Mickler, 2005) that questionnaire measures of wisdom may be mostly explained by personality factors. We found that, indeed, the personality variables of neuroticism, extraversion, and openness to experience are related to wisdom as well as to mental health. Despite this, wisdom accounted for an additional amount of variance above and beyond personality and demographic variables combined (see Model 3, Table 2), and so it seems unlikely that the wisdom-mental health association can be explained away by personality traits. In fact, wisdom was found to have the strongest relation to mental health.

#### LIMITATIONS AND FUTURE DIRECTIONS

As with any cross-sectional study, certain limitations are apparent, the primary one being the age by cohort confound. Although the age differences in educational levels can be seen as a potential cohort effect, they only explain part of the curvilinear relationship between age and wisdom. Still, it is possible that the age differences we describe are due to different formative experiences of the three age groups (e.g., perhaps humor levels reflect parental training practices which differed across the earlier part of the 20<sup>th</sup> century) rather than true developmental changes per se. Longitudinal studies are needed to investigate such issues. Moreover, as Figure 1 (a - f) makes clear, although there are significant trends for wisdom and its subcomponents as a function of age, it is important to acknowledge the large variability within age groups. In all three age groups, there is a wide deviation in scores, suggesting that even in the younger and older categories, a certain percentage of people are wise. This alerts us to the fact that there is much diversity in wisdom development; some of us will grow wiser as we age and some of us will not. Exploring the antecedent conditions and contemporary context of those individuals who do achieve this celebrated virtue is a fruitful area for future studies.

In addition, the causal relationship between wisdom and mental health cannot be determined. Perhaps good mental health is a necessary prerequisite for

the emergence of wisdom; perhaps wisdom allows for the subsequent development of positive mental health; or perhaps some other variable (e.g., relationship quality) causes both wisdom and mental health to increase. Longitudinal studies are needed to disentangle such rival explanations. It is likely that the wisdom-mental health relationship is complex, dynamic, and dialectic. Despite this caveat, given the strong association between wisdom and mental health in the current study, it seems reasonable for future research to explore if and how wisdom may be enhanced in persons throughout the lifecourse.

For instance, recent conjectures on the teachability of wisdom (e.g., Ferrari & Potworowski, 2008) suggest that programs to enhance wisdom might pay important dividends in mental health for adults of all ages, perhaps in particular for older individuals. Such efforts can involve both structured, didactic approaches in school settings (e.g., Sternberg, Jarvin, & Reznitskaya, 2008), community activities such as intergenerational volunteering (e.g., Parisi, Rebok, Carlson Fried, Seeman, Tan, Tanner & Piferi, 2009), and therapeutic interventions aimed at increasing wisdom (e.g., Knight & Laidlaw, 2009). For instance, wisdom might be a relevant process measure in the context of life-review interventions (Westerhof, Bohlmeijer & Webster, 2010; Korte, Bohlmeijer, Cappeliez, Smit, & Westerhof, 2012). Wisdom has been linked to increased self-knowledge in the context of autobiographical reasoning (Randall, 2011). An interesting new line of research would then be to include wisdom as a possible mediating factor in experimental studies of the effects of life-review.

Aging well requires adaptation and accommodation to the changing vicissitudes of life. Developing a mature, balanced, and eudamonic orientation as we grow older may facilitate optimal aging and wisdom is one means through which this may be accomplished.



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# CHAPTER 6

## Identity, wisdom, and critical life events in younger adulthood

Webster, J. D. (2013). Identity, wisdom, and critical life events in younger adulthood. In J. Sinnott (Ed.), *Positive psychology: Advances in understanding adult motivation* (pp. 61–77). New York: Springer.

## ABSTRACT

This study examined the links among identity processing styles, wisdom, and critical life event narratives, as well as measures of cognition and emotion in young adulthood. Participants included 112 women and 47 men ranging in age from 17 to 38 ( $M_{age} = 20.42$ ,  $SD = 3.62$ ) who wrote a critical life events narrative and completed the Self-Assessed Wisdom Scale (SAWS), the Identity Style Inventory, Revised (ISI3), the Interpersonal Reactivity Index (IRI; a measure of empathy), and the Attribution Complexity Scale (ACS). Bivariate correlations supported the predictions that the Informational Identity style was positively associated with wisdom, empathy, and attribution complexity. Regression analyses showed that the Informational Identity style and attributional complexity together accounted for 42.5% of the variance in predicting wisdom scores. Finally, narratives of critical life events were positively associated with wisdom scores. Results suggest that jointly examining identity, wisdom, and lifestories is a promising avenue for future research and theory development.

## IDENTITY, WISDOM, AND CRITICAL LIFE EVENTS IN YOUNGER ADULTHOOD

Hallmarks of positive psychology, including the motivation to reach beyond the status quo and strive for fulfillment, have encouraged researchers to investigate higher level human strengths and virtues. The search for a coherent sense of self and the pursuit of wisdom, at both the individual and societal level, are two such examples.

Younger adults today must make critical life choices about identity against a background which is potentially enabling and constricting at the same time. Myriad choices regarding leisure, education, career, lifestyle, spirituality, politics, and relationships in contemporary Western society provide many options for identity development; paradoxically, these seemingly innumerable opportunities can seem paralyzing (e.g., Schwartz, 2004; Schwartz & Ward, 2004). Moreover, given the rapid change in both geopolitical and sociocultural contexts, making relatively firm decisions regarding identity parameters is a complex and difficult process, due in part to the inherent uncertainty which these choices entail.

The combination of overwhelming options in a dynamic social system is an excellent example of a situation which calls for wisdom (Kunzman & Baltes, 2003; Webster, 2010). Critical, in depth, and reflective analyses of fundamental ideological issues is a core component of both identity (Berzonsky & Luyckx, 2008; Erikson, 1963; Marcia, 1966) and wisdom (Ardelt, 2003; Bluck & Gluck, 2004; Clayton & Birren, 1980; Kramer, 1990, 2000; Webster, 2003, 2007) development. Moreover, this type of evaluative processing often takes the form of a self-narrative (e.g., Habermas & Bluck, 2000; McAdams, 1993, 2003, 2006; McLean, Pasupathi, & Pals, 2007; Pals, 2006) a rich and powerful way of understanding ourselves and our world.

Although there are conceptual and theoretical links amongst these variables, little research on their interaction has been conducted. According to Beaumont (2009), research investigating the link between identity and wisdom “is almost nonexistent”; nor is there much empirical work investigating the link between wisdom and narrative (Bluck and Gluck, 2004; Gluck, Bluck, Baron, & McAdams, 2005). This study, to my knowledge, is one of the first to examine the interrelationship among all three of these variables using a psychometrically sound measure of wisdom, in a methodological approach which combines quantitative and qualitative analyses.



I begin with a separate, brief discussion of identity, wisdom, and narrative. Subsequently, I briefly describe how these three domains are interrelated. Finally, I detail the specific hypotheses of this study.

## IDENTITY

Erikson (1963) postulated that the main psychosocial task of late adolescence was to establish a clearly articulated and coherent identity. Assimilating and consolidating values, aptitudes, roles, expectations, strengths, and limitations of previous psychosocial stage outcomes leads to identity achievement rather than role confusion. Marcia (1966) elaborated and extended Erikson's model by identifying two orthogonal dimensions, crisis and commitment, which when crossed produced four identity statuses: identity achieved, moratorium, foreclosed, and identity diffusion. This typology was the dominant method of identity research for over three decades (Kroger, 2000) with reviews of the area (e.g., Marcia, Waterman, Matteson, Archer, & Orlofsky, 1993) illustrating various strengths and limitations of each status (e.g., achieved status higher on measures of moral reasoning, intimacy, and achievement motivation; foreclosed low on anxiety but high on authoritarianism), as well as reporting evidence for a developmental progression from least to most mature status (i.e., diffusion to achieved) over time.

More recently, Berzonsky (1989, 2003, 2008; Berzonsky & Luyckx, 2008) developed measures of identity processing styles, rather than discrete identity statuses (or categories). Berzonsky (1990) defined identity as "a self-constructed cognitive representation of oneself that is used to interpret self-relevant information and to cope with personal problems and life events" (p. 156). His model consists of three social-cognitive identity styles, the informational, normative, and diffuse/avoidant, which have been differentially associated with several measures of psychosocial adjustment (Berzonsky & Kuk, 2005).

The informational style involves an active search and critical evaluation of identity alternatives. These individuals process and analyze identity relevant information with the aim of eventually making firm commitments regarding fundamental identity components (e.g., sex roles, politics, and career). The informational style is consistent with the ego identity statuses of identity achieved and moratorium. Research indicates that the informational style is associated with

higher levels of openness to experiences and need for cognition (Berzonsky & Sullivan, 1992), transcendence and self-actualization (Beaumont, 2009), future time perspective, (Luyckx, Lens, Smits, & Goossens, 2010), problem-focussed coping and empathy (Soenens, Duriez, & Goossens, 2005), and curiosity/exploration, proactive coping, and emotional intelligence (Seaton & Beaumont, 2008).

The normative style also describes persons with strong commitments to fundamental ideological issues, but this decision closure does not follow from an active questioning, exploration, and analysis of identity alternatives. Rather, life choices are typically adopted wholesale from powerful figures (typically parents) in the adolescent's life. The normative style is consistent with Marcia's foreclosed ego identity status, and as such, has both positive and negative associated traits. In terms of the former, for instance, normative individuals typically have good relationships with parents and score low (relative to moratorium individuals) on measures of anxiety. In terms of the latter, however, normative individuals score lower, for example, on measures of empathy and openness, and higher on measures of prejudice and conservatism (Beaumont, 2009; Berzonsky, 1990; Soenens, Duriez, & Goossens, 2005).

The diffuse-avoidant style is characteristic of persons for whom issues of identity are avoided and/or which produce feelings of confusion or anxiety. This identity style maps onto Marcia's identity diffused category. As such, individuals scoring high on the diffuse-avoidant style tend to lack introspection, conscientiousness, cognitive complexity, and emotional intelligence, and tend to be higher in neuroticism and the use of avoidant coping strategies, among other relatively negative attributes (e.g., Berzonsky, 1993; Berzonsky & Kuk, 2005; Seaton & Beaumont, 2008).

## WISDOM

Wisdom is an ancient and hallowed construct which is currently enjoying an empirical renaissance. Typically conceptualized as a cognitive-motivational-emotional capacity (e.g., Birren & Fisher, 1990), wisdom is considered the acme of mature human engagement in the world, a means of pursuing a moral path to eudaimonia. Although there is no universal agreement concerning the definition of wisdom, there is a growing contemporary consensus of several of its key features, including emotional regulation, reflectiveness/introspection, openness,

humor, and growth through challenging life experiences (Jeste, Ardel, Blazer, Kraemer, Vaillant, & Meeks, 2010).

Recent research stems from multiple perspectives (Staudinger & Gluck, 2011) and employs different methods such as think aloud protocols (Baltes & Staudinger, 2000), self-generated wisdom narratives (Bluck & Gluck, 2004; Bluck, Gluck, Baron, & McAdam, 2005), and questionnaire measures (Ardelt, 1997; Webster, 2003, 2007). Converging evidence both supports some assumptions about wisdom correlates (e.g., it is positively related to generativity, ego integrity, openness, empathy, and forgiveness, among others) as well as negates other assumptions (e.g., that wisdom is necessarily related to aging). Generally viewed as a positive capacity manifesting fully in older adulthood (e.g., Birren & Fisher, 2005; Kramer, 2000; Pals, 2005), recent indirect and direct empirical evidence suggests that vital qualities of emergent wisdom develop in late adolescence and early adulthood (e.g., Fry, 1998; Pasupathi, Staudinger, & Baltes, 2001; Richardson & Pasupathi, 2005; Webster, 2010).

In terms of indirect evidence, cognitive abilities to reason dialectically (Kramer, 2000; Labouvie-Vief, 1990; Takahashi & Overton, 2005), an appreciation of the complexity and reciprocity of family, peer, and social relationships (e.g., Damon, 2000), and an increasingly sophisticated biographical understanding and narrative complexity (e.g., Habermas & Bluck, 2000; Bluck & Gluck, 2004; McLean, 2005; McLean & Thorne, 2003) all contribute to the late adolescent's capacity to nurture the seeds of wisdom. However, in terms of the latter, Richardson and Pasupathi (2005) note that "Empirical work that directly addresses wisdom in adolescence is sparse" (p. 150). Some of the limited evidence is as follows.

Using the Berlin paradigm, Pasupathi, Staudinger, and Baltes (2001) showed that wisdom-related performance increased from adolescence through young adulthood, after which performance levelled out. Using participants' subjective definitions of wisdom (as assessed via remembered "wise" experiences), Bluck and Gluck (2004) found that while members from all three age groups (i.e., adolescents, young adults, older adults) were able to use experienced wisdom to transform autobiographical episodes from initially negative to positive outcomes, younger adults were more likely than adolescents or older adults to have learned valuable lessons about themselves. In a later study, (Gluck, Bluck, Baron, & McAdams, 2005) adolescents were shown to have a higher frequency of empathy/support forms of experienced wisdom relative to self-determination/assertion and knowledge/flexibility forms in comparison to middle-aged and older groups.

In summary, many of the putative building blocks of wisdom are developing during late adolescence and early adulthood. Certain thinking processes, ongoing emotional maturation, accumulating life experiences, and emerging biographic competencies provide opportunities for emerging adults to make sense of their lives and to discover meaning, direction, and purpose in their evolving lifestories, as briefly detailed below.

### **Narrative**

A substantial and growing body of work (e.g., Boyd, 2009; Bruner, 1986; Burnell, Coleman, & Hunt, 2011; Freeman, 1993, 2011; Fulford, 1999; Jones, 2010; Kenyon & Randall, 1997; McAdams, 1993, 2006; McLeod, 1997; Ochs & Capps, 2001; Randall & McKim, 2008; Tedeschi & Calhoun, 2004) supports the contention that the stories we construct and tell to ourselves and others strongly influence myriad psychosocial outcomes. Among these possible outcomes, stories clarify goals, support existential pursuits such as the search for meaning, help identify and consolidate facets of self-knowledge into identity structures, overcome traumatic events, and enable the development of higher level skills and virtues such as morality (e.g., Matsuba & Walker, 2005) and wisdom (e.g., Mansfield, McLean, & Lilgendahl, 2010; Randall, 2011). As a natural and ubiquitous activity, therefore, narratives offer a window into the types of cognitive-emotional processes which accompany our attempts to define who we are as persons (i.e., identity) and to live a good life (i.e., wisdom).

## **IDENTITY, WISDOM, AND NARRATIVE**

According to McAdams (2008), the “formulation of a narrative identity is the central psychosocial challenge of emerging adults in modern societies” (p. 252). Such an enterprise places heavy cognitive, emotional, and motivational demands on late adolescents. Identifying and evaluating potential alternatives in work, relationships, and sociopolitical commitments, for instance, requires recursive analysis-synthesis cycles. Moreover, the emotional investment in trial roles, with their concomitant successes and failures can be taxing and stress-inducing. Consequently, motivational elements, such as approach-avoidance conflicts, perseverance, and goal adjustment, emerge as integral components of identity development. Successfully surmounting these intertwined cognitive, emotional, and motivational challenges presupposes a suite of correlated skills and

personality attributes, among which may be “a general commitment to, or motivation to strive for, wisdom” (Richardson & Pasupathi, 2005, p. 144).

In sum, the links between identity and wisdom have intuitive, conceptual, and theoretical links. Specifically, Erikson claimed that the later phase of wisdom development is preceded by the earlier phase of identity exploration and commitment. Until very recently, however, this putative association has not been tested via direct, empirical assessment. Moreover, scholarship from a narrative approach to psychological investigation has clear links with both identity and wisdom; coherent stories about ourselves (identity) and our struggles to understand and improve our world (wisdom) evolve as we read and revise our autobiographies (Randall & Kenyon, 2001; Randall & McKim, 2008). This development is fostered by, antecedent, concomitant, and consequent skills, such as complex thinking skills and empathy. The current project assesses the theoretical link between identity and wisdom and examines the importance of cognitive (attributional complexity) and socioemotional (empathy) factors as predictors of wisdom, as well as how narratives of critical life events are associated with wisdom.

Given the above literature review, I hypothesized that the informational identity style would be positively correlated with wisdom, empathy, and attributional complexity; that the diffused identity style would be negatively correlated with wisdom, empathy, and attributional complexity; and that the normative identity style would be uncorrelated with wisdom, empathy, and attributional complexity. Finally, wisdom and the informational identity style would be positively correlated with the critical life narrative scores whereas the normative identity and diffused identity scores would be uncorrelated and negatively correlated, respectively, with the critical life narrative score. These hypotheses were initially tested with zero order Pearson correlations and subsequently using multiple regression.

## METHODS

### Participants

Participants included 112 women and 47 men ranging in age from 17 to 38 ( $M_{\text{age}} = 20.42$ ,  $SD = 3.62$ ). Participants had completed on average 14.01 years of total education ( $SD = 1.80$ ) and rated their subjective health relative to persons their

own age as healthy ( $M = 5.03$ ,  $SD = 1.05$ ) on a 7-point scale where 1 = *poor* and 7 = *excellent* health. Participants were primarily Caucasian (42%) followed in descending order by Chinese (23.5%), Indo-Canadian (8%), Korean (2.5%), and Japanese and African Canadian (both at .6%). Finally, 22.2% of participants rated themselves as "other". Participants were recruited from 1st and 2nd year psychology courses at a demographically diverse community college in Vancouver, Canada and were paid a \$10.00 honorarium for participating.

## Quantitative measures

**Identity.** Identity was measured with the Identity Style Inventory, Revised (ISI3) by Berzonsky (1992). This is a 40-item inventory measuring three styles of identity processing orientation. The information style consists of 11 items (e.g., "I've spent a lot of time and talked to a lot of people trying to develop a set of values that make sense to me"); the normative style consists of 9 items (e.g., "I've more-or-less always operated according to the values with which I was brought up"); and the diffuse-avoidant style consists of 10 items (e.g., "It doesn't pay to worry about values in advance; I decide things as they happen"). An additional 10-item subscale measures commitment to identity but is not analyzed/discussed in the current study. Participants respond to all statements using a 5-point Likert scale ranging from 1 = "not at all like me", to 5 = "very much like me". After reverse scoring negatively worded items, total scores are composed by summing across items composing each subscale. Higher scores indicate higher levels of a particular identity processing style. Cronbach's alphas in the current study for the informational, normative, and diffuse-avoidant styles, respectively, were .714, .623, and .803.

**Wisdom.** Wisdom was measured with the Self-Assessed Wisdom Scale (SAWS; Webster, 2003, 2007) a 40-item questionnaire reflecting the following five components of wisdom (sample items are italicized) : Critical life experiences: "*I have experienced many painful events in my life*"; Reminiscence/reflectiveness: "*Reviewing my past helps me gain perspective on current concerns*"; Openness to experience: "*I like to read books which challenge me to think differently about issues*"; Emotional regulation: "*I am very good about reading my emotional states*"; and Humor: "*Now I find that I can really appreciate life's little ironies*". Participants respond to each question using a Likert type scale where 1 = "*strongly disagree*" to 6 = "*strongly agree*".

The SAWS has excellent reliability (i.e., test-retest and internal consistency) and various forms of validity. With respect to the latter, the SAWS predicts levels

of foolishness (negatively), generativity, and ego integrity (Webster, 2007), adaptive leadership styles (e.g., Kristinsson, 2005), positive psychosocial values such as personal growth and sense of coherence (Webster, 2010), civic engagement and altruism (Bailey & Russell, 2009), benefit finding in cancer patients (Costa & Pakenham, 2011), and forgiveness, psychological well-being, and a lack of a socially desirable response style (e.g., Taylor, Bates, & Webster, 2011). Cronbach's alpha for the current study is .869.

**Empathy.** Empathy was measured using the Interpersonal Reactivity Index (IRI; Davis, 1983) which assesses four components of empathy including, personal distress, fantasy, perspective taking, and empathic concern. The current study used only the latter two dimensions. Both empathic concern (e.g., "I often have tender, concerned feelings for people less fortunate than me") and perspective taking (e.g., "I sometimes find it difficult to see things from the 'other guy's' point of view") subscales consist of 7 items each measured on a Likert scale where 1 = "strongly disagree" and 5 = "strongly agree". The empathic concern and perspective taking scales were combined with the possible total score ranging from 14 - 70. Cronbach's alpha for the current study for the IRI was .799.

**Attributional complexity.** Attributional complexity, a measure of the attributional schemata that people use to explain human behaviour, was assessed with the Attributional Complexity Scale (ACS; Fletcher, Danilovics, Fernandez, Peterson, & Reeder, 1986). The scale measures seven attributional constructs: (1) a motivation component, (2) preference for complex rather than simple explanations, (3) metacognition concerning explanations, (4) awareness of the extent to which people's behaviour is a function of interaction with others, (5) a tendency to infer abstract or causally complex internal attributions, (6) a tendency to infer abstract, contemporary, external causal attributions, and (7) a tendency to infer external causes operating from the past. Fourteen items are reversed scored before summing across all items. Higher scores indicate higher levels of attributional complexity. Cronbach's alpha for the current study is .899.

## Qualitative measures

**Critical life narrative.** Participants provided a written narrative concerning a "critical life decision" defined as one which "had important consequences for yourself in terms of physical, emotional, or psychological health". Participants were requested to include information concerning the context, relationships, emotions, cognitions, and consequences of this critical life event. Stories were

coded for insight (e.g., a person's understanding of the causes and consequences of the event, level of self responsibility, and psychological dynamics); sense of closure (i.e., evidence that the person has been able to assimilate the experience, grow from it, and move on in their life); and contextual complexity (i.e., an appreciation for the biopsychosocial constraints and opportunities within which the critical event unfolded) on a 5-point scale where 1 = "little or no evidence" of construct and 5 = "very high level" of construct. Similar types of thematic coding of narratives have been used in personality (e.g., McAdams, 2006), developmental (e.g., McLean & Thorne, 2003), and wisdom (e.g., Bluck & Gluck, 2004) research.

The scores from insight, closure, and complexity were summed and then multiplied by an "intensity" factor. Intensity refers to the fact that some stories concerned relatively trivial decisions (e.g., pets) while others were more consequential (e.g., suicide attempts, abortion). Intensity was rated from low = 1 to high = 5. The total critical life narrative (CLN) score was thus the sum of the insight, closure, and complexity scores multiplied by the intensity factor. Scores could then theoretically range from 1 - 75. In the current study, actual scores ranged from 3 - 67.5 ( $M = 28.15$ ,  $SD = 11.36$ ). After training, a single coder rated all stories. Unfortunately, interrater reliability information is not available and results should therefore be treated with caution. Essentially, this aspect of the current project should be seen as pilot data, but given the importance of combining questionnaire measures of wisdom with performance measures as a validation method, it is considered important to investigate this issue at least in a preliminary and tentative way.

## RESULTS

As can be seen in Table 1, the predicted relationships for the informational and diffused identity styles, and wisdom, empathy, and attributional complexity were all supported, as were all the predictions for the normative identity style with the single exception of attributional complexity in which higher normative identity scores were significantly associated with lower attributional complexity scores ( $r = -.239$ ,  $p < .01$ ).



Table 1 Descriptive statistics and zero order correlations for demographic and main study variables

Measure	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Sex	--	--	--	.058	-.036	.216**	-.063	.018	.046	.048	-.170*	-.178*	-.142
2. Age	20.42	3.62		--	.567**	.051	.257**	.095	-.322**	-.251**	.222**	.193*	.268**
3. Educ	14.01	1.80			--	.064	.225**	.160*	-.055	-.179*	.099	.185*	.192*
4. Health	5.03	1.05				--	.090	.132	.009	-.164*	-.001	.002	.055
5. SAWS	178.99	19.09					--	.561**	-.122	-.217**	.546**	.455**	.278**
6. Inform	37.41	6.02						--	.022	-.237**	.578**	.454**	.227**
7. Norm	26.98	5.02							--	.280**	-.239**	-.080	-.097
8. Diff	27.34	6.78								--	-.388**	-.368**	-.243**
9. Attrib	35.88	22.21									--	.639**	.326**
10. IRI	52.91	7.14										--	.255**
11. Narr	28.15	11.36											--

Note: Sex (Females = 1; Males = 2); Educ = Years of education; SAWS = the Self-Assessed Wisdom Scale; Inform = Informational Identity Style; Norm = Normative Identity Style; Diff = Diffused Identity Style; Attrib = Attributional Complexity Scale; IRI = Interpersonal Reactivity Index; Narr = Critical Life Event Narrative; N = 154-162 due to missing values; \* $p < .05$ , \*\* $p < .01$ .

Based upon this overall pattern of correlational findings, I conducted a multiple regression analysis in order to determine the unique predictive power of relevant variables. Specifically, the informational and diffused identity styles, empathy, attributional complexity, and the demographic variables of age and education level were selected to regress on wisdom. Due to the intercorrelation among these predictor variables, there was the possibility of multicollinearity, and so diagnostic statistics of tolerance (a measure of variance in predictor that cannot be accounted for by other predictors) and the variance inflation factor (VIF) were conducted. Both tests revealed values in the acceptable range and indicated that multicollinearity was unlikely to effect the reliability of the results. A further diagnostic test revealed the presence of a single outlier and so the regression was run with, and without, this case. Results indicated that removal of the outlier had no effect on the results and therefore the analysis reported below is based upon the complete sample.

Overall, the regression model was significant,  $F(5, 148) = 21.92, p < .000$ . Collectively, the predictor variables accounted for over 40.0% of the variance ( $R^2 = .425$ ). Table 2 illustrates the unstandardized and standardized regression weights ( $\beta$ ) associated with each predictor variable. As can be seen, the informational identity style is the strongest predictor of wisdom ( $\beta = .369; t = 4.576; p < .000$ ) followed by attributional complexity ( $\beta = .222; t = 2.344; p = .013$ ). None of the other variables were significant.

Table 2 *Predictors of wisdom*

Variable	B	SE	95% CI	Beta	<i>t</i>	<i>p</i>
Constant	80.842	17.121	[46.998, 114.685]	4.722.000		
Informational Style	1.147	.251	[.651, 1.642]	.369	4.576	.000
Diffused Style	.186	.199	[-.206, .579]	.067	.939	.350
Attributional Complexity	.193	.082	[.030, .355]	.222	2.344	.020
Empathy	.379	.226	[-.068, .826]	.141	1.678	.096
Age	.756	.411	[-.057, 1.568]	.146	1.839	.068
Educ	.506	.827	[-1.129, 2.141]	.048	.611	.542

Note: B = unstandardized coefficients; SE = standard error; Educ = total years of education.

Finally, the qualitative narrative wisdom measure was correlated in predicted ways with main study variables. The appendix includes an example of two narratives, one high on wisdom and the other low on wisdom, for illustration purposes. Again, due to the lack of interrater reliability for this measure, the results must be seen as tentative and treated with due caution. For this reason, I only report the bivariate correlations and do not include these values in any subsequent analyses.

Table 1 illustrates that the questionnaire measure of wisdom (i.e., the SAWS) is positively correlated with the critical life narrative measure ( $r = .278, p < .01$ ). Further, for the rest of the main study variables, correlations follow the same pattern as the SAWS, the only difference being that the magnitude of the correlations is consistently less. Specifically, the CLN is positively correlated with the informational identity style, attributional complexity, and empathy; it is uncorrelated with the normative identity style and negatively correlated with the diffused identity style.

Finally, in terms of the demographic variables of sex and age, only the latter reached significance ( $r = .257, p < .01$ ). This result is consistent with findings from Pasupathi, Staudinger, and Baltes (2001) using participants ranging in age from 14 to 37, who found an association between age and wisdom up to a point (approximately age 24) after which wisdom-related performance tended to plateau.

## DISCUSSION

The primary aim of the present study was to investigate the theoretical link between identity and wisdom, an association suggested several decades ago by Erikson (1963) but not directly and empirically investigated until very recently. Bivariate correlations were all (with one exception) consistent with predictions. Specifically, the informational identity style was positively correlated with wisdom suggesting

that the types of cognitive-emotional processing capacities and behaviours associated with this identity style potentially serve as enabling conditions for wisdom. In contrast, less mature forms of identity processing involving lower empathy and openness, as well as higher prejudice and conservatism (i.e., normative identity style) and lower introspection, cognitive complexity, and use of avoidant coping strategies (i.e., diffuse identity style) are either unrelated or negatively related to wisdom, respectively. This pattern of findings maps onto recent results reported by Beaumont (2011). Using Ardel's (2003) 3D-WS measure of wisdom and the same identity styles questionnaire used in the present study, Beaumont found that the informational style was positively correlated, the normative style uncorrelated, and the diffused style negatively correlated with wisdom.

The current findings also augment earlier reports concerning various attributes of the three identity styles. For example, the informational, normative, and diffused identity styles are positively, uncorrelated, and negatively correlated, respectively, to empathy. This suggests that the personal struggle to evaluate options, make difficult life decisions, parse complex emotions, and overcome uncertainties about future life directions (informational style), increases one's sensitivities to others who must undergo similar trials. Consequently, empathic qualities are likely to emerge. In contrast, when such ideological struggles are not necessary (normative style) or avoided (diffuse style) an appreciation for the internal life of others is less likely to be shown.

Similarly, the informational, normative, and diffused identity styles are positively, negatively, and negatively, correlated, respectively, to attributional complexity. Attributional complexity involves the recognition that the behaviours of self and others are multiply determined, and that many potential internal (e.g., traits, desires, competencies) and external (e.g., stress, environmental obstacles, social inequity) factors must be considered when making behavioural attributions. As predicted, the information style was positively, and the diffused style was negatively, correlated with attributional complexity. However, the correlation between attributional complexity and the normative style was predicted to be non-significant and this was not supported. Given that the normative style has both positive and negative aspects (see literature review above) and that little prior research investigated this link directly, it was difficult to make a directional hypothesis. One possible explanation for this unpredicted finding is that normative style individuals do not have to undergo the evaluative analysis and synthesis of identity components; this lack of experience with

struggling to make internal identity attributions may contribute to their inability (or lack of motivation) to understand the complexities of others' motivations.

With respect to the associations among empathy, attributional complexity, and wisdom, all predictions were supported. Wisdom involves the ability to see beyond the surface, comprehend myriad, oftentimes competing motives, and understand the internal and external factors which drive persons to behave as they do (i.e., wise persons are attributionally complex). The positive association in this study between attributional complexity and wisdom ( $r = .546, p < .01$ ) replicates earlier work using the same two measures (i.e., Webster, 2010). Further, wisdom involves the emotional skill of "getting inside someone's head" and appreciating the rich intrapsychic life of others. Akin to Gardner's (1983) notion of interpersonal intelligence, wise persons have insight into the affective components and processes of people in general as indicated by the association between empathy and wisdom ( $r = .455, p < .01$ ) in the current study.

The above correlational conclusions need to be tempered in light of the regression analysis. Of the variables meant to predict wisdom, only the informational identity style and attributional complexity achieved significance. This is not surprising given the relatively heavy cognitive emphasis of these two factors, a supposition supported by the strong bivariate association between these two variables ( $r = .578, p < .01$ ).

In contrast, empathy did not contribute any additional unique variance although there was a trend in the correct direction ( $\beta = .141; t = 1.678; p = .096$ ). This may be explained, in part, by the high association between empathy and attributional complexity in this study ( $r = .639, p < .01$ ). In addition to the emotional attunement aspect of the IRI (i.e., recognition of feelings and emotions in others) there is also a perspective taking element which is similar in function to attributional complexity. Hence, once the strong cognitive aspects of the informational style and attributional complexity accounted for much of the variance, there was little variance left to be accounted for by empathy.

Finally, the critical life narratives (CLN) findings provide some of the first direct evidence that the stories young adults tell about actual challenging life events (as opposed to hypothetical events as in the Berlin Wisdom paradigm) are correlated with a psychometrically sound wisdom questionnaire, indicating that wise persons tell "wise" stories. Persons higher on wisdom were more likely to describe highly stressful and/or traumatic experiences within a broader, complex context; search for life lessons learned and insights gained; and to achieve a sense of closure and move on in life.

For instance, some participants recognized highly destructive patterns of behaviour and thinking which progressively spiralled out of control in terms of drug and alcohol addiction. One participant proactively, based upon insight concerning her psychological state, set out on a conscious course of reflection, evaluation, planning, and action which first removed her from damaging relationships and actions which eventually allowed her to re-engage in healthy, meaningful, and nurturing relationships with her family. She developed many fundamental insights about herself, motivations, and life goals, recognizing for instance that she became excessively angry when she drank, that her creative artistic abilities allowed her to convey her emotions in a healthy manner, and in order to change she must work through her fears and insecurities. She examined her destructive patterns and on a daily basis consciously reflected on her actions and words throughout the day in order to decide what she could do differently to correct them. This participant no longer surrenders to her fears and feelings of hopelessness and worthlessness. Instead, she currently expresses self-acceptance, even love, and recognizes she has the power to make healthy choices. These hard won victories, poignant evidence of post-traumatic growth, illustrate the relationship between resilience and wisdom (e.g., Linley, 2003).

These results are consistent with recent findings by Mansfield, McLean, and Lilgendahl (2010). One of the dimensions these researchers coded their narratives for was growth, defined as experiences "... that enhance self-development and quality of one's life, by increasing clarity of identity, sense of purpose, self-efficacy, self-insight, meaningful connections with others, well-being, etc." (p. 256). As such, this measure and the current coding of the CLN share several commonalities. Mansfield et al. (2010) found that growth was positively correlated with wisdom ( $r = .35, p < .01$ ) in their study but only for stories relating to transgressions, as opposed to traumas.

## LIMITATIONS AND CONCLUSION

The following limitations must be considered when drawing conclusions from the present study. First, although the link between identity and wisdom was strongly established, the correlational nature of the results precludes confirming the theoretical supposition that identity *precedes* wisdom development. It is possible that wisdom emerges before the Eriksonian stage of identity, and that wise individuals recognize the necessity, and have the skills for, developing a clearly

articulated and coherent sense of self. A third, and more likely probability, is that wisdom is a continuous, evolving process in which feedback from life experiences is synthesized in some dialectical fashion. Longitudinal studies are required to tease apart the temporal ambiguities inherent in the wisdom-identity relationship.

Second, although the target population of interest for this study was in fact younger adults, future studies should investigate similar issues using a greater range of ages. Erikson (1963) suggested that each psychosocial crisis can be seen in primitive forms before its critical time arrives and continues to influence development throughout life even as persons move on to higher level stages of maturity. This means that although questions such as "Who am I" take center stage in adolescence, they continue to be of importance throughout life. Investigating identity and wisdom in middle and later adulthood, therefore, can provide some clarification about antecedents and sequelae for both these constructs.

Finally, as noted, lack of interrater reliability for the CLN is problematic. Some attenuation of this concern comes from the findings of Mansfield et al. (2010) reported above who were able to establish excellent interrater reliability for their measure of growth (i.e., .91). As their measure of growth shares several facets in common with the CLN, there is reason to be optimistic about the potential reliability of the CLN as well. Viewed with appropriate caution therefore, the link between critical life event narratives and wisdom point to promising new directions for research.

Answers to existential questions such as "Who am I?", and "How can I lead a 'good' life?" demand an active, persistent, and frequently taxing search for insight into identity and wisdom. These types of fundamental, ideological queries can be, and often are, framed within lifestories. Writing, editing, and telling such stories allow us to see themes, motivations, and values in our evolving autobiographies which can help clarify who we are, and are becoming, as well as distilling personal insights which could contribute to wisdom development.

Perhaps achieving a consolidated sense of self enables one to develop wisdom; perhaps wise persons recognize the advantage of facing life's exigencies with a firm, hard won sense of self. Which trait/process is antecedent and which consequent is for future research to answer. For now, this project has illustrated in a least a preliminary way how identity, wisdom, and self narratives are interrelated. As such, it adds to the very limited information we have in what promises to be a very fruitful area within positive psychology.

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# CHAPTER 7

## **Paths from trauma to intrapersonal strength: Worldview, posttraumatic growth, and wisdom**

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## ABSTRACT

Both posttraumatic growth and wisdom have been linked with traumatic life events as predictors and various mental health factors as outcomes. One hundred and thirty males and 190 females ( $M = 20.85$ ,  $SD = 4.25$ ), wrote brief trauma narratives and completed measures of worldview, posttraumatic growth, wisdom, and indicators of intrapersonal strength. Correlational results indicated that posttraumatic growth and wisdom were positively associated. Using Structural Equation Modelling we examined pathways from stress to intrapersonal strength via changes in worldview, posttraumatic growth, and wisdom. The model accounted for 50% of the variance in intrapersonal strength and supported the prediction that changes in worldview precede both posttraumatic growth and wisdom. Both posttraumatic growth and wisdom measures contributed independently to intrapersonal strength. Implications for both posttraumatic growth and wisdom research are discussed.

*Key words:* Self-assessed wisdom scale; stress; centrality of event scale; narratives; critical life events.

**PATHS FROM TRAUMA TO INTRAPERSONAL STRENGTH:  
WORLDVIEW, POSTTRAUMATIC GROWTH, AND WISDOM**

Over millennia and across disciplines, some variant of Nietzsche's maxim, "What does not destroy me, makes me stronger" (*Twilight of the Idols*, 1889) has resonated with scholars and laypersons alike (e.g., Maddi, 2006; Tedeschi, Park, & Calhoun, 1998). It serves as a poignant and compelling reinforcement to Tedeschi and Calhoun's (2004) claim, "...that suffering and distress can be possible sources of positive change..." (p. 2). Emerging findings from the domain of posttraumatic growth (PTG), which involves a belief that one has grown through adversity (e.g., Joseph & Linley, 2005; Park & Helgeson, 2006; Prati & Pietrantonio, 2009; Tedeschi & Calhoun, 2004) offer both empirical corroboration of such claims, as well as conceptual models which articulate the process and potential outcomes of dealing with life's exigencies.

Similarly, coping with very difficult, challenging life events has also been linked with wisdom (e.g., Webster, 2013), an ancient construct currently enjoying an academic renaissance within the field of psychology (e.g., Karelitz, Jarvin, & Sternberg, 2010). Against very positive background characteristics (e.g., experiences of love, support, self-actualization) wisdom is believed to be partly forged in the crucible of difficult life experiences; graduates of the school of "hard knocks" are assumed to manifest particular psychosocial strengths as a consequence of successfully negotiating life's serious conundrums.

Recently, these two independent research streams have been conceptually linked but not empirically tested (Aldwin & Levenson, 2004; Linley, 2003; Tedeschi & Calhoun, 2004). The types of cognitive-emotional processing of trauma related information may serve as a catalyst for both posttraumatic growth and wisdom. Trauma, by definition, is a requirement for PTG. In contrast, trauma is not necessary for wisdom, and wisdom is enabled and enhanced by non-traumatic, positive life events as well (e.g., peak experiences, success, loving relationships). One model (Tedeschi & Calhoun, 2004) posited that wisdom covaried with PTG, although supporting empirical evidence from the conceptually related area of stress-related growth has been weak (e.g., Jennings, Aldwin, Levenson, Spiro, & Mroczek, 2006). The current study is one of the first to directly test the claim that PTG and wisdom are indeed related. We start with a brief introduction to both PTG and wisdom research.

## POSTTRAUMATIC GROWTH

Empirical evidence has increasingly shown that a significant percentage of persons actually grow through adversity (e.g., Bonanno, 2008; Linley & Joseph, 2004). These types of events shatter our assumptive worlds (i.e., Janoff-Bulman, 1992) and leave us without a meaningful philosophical and psychological foundation. They act, as Tedeschi and Calhoun (2004) evocatively imagine, as a psychological earthquake, a seismic event which reduces to rubble our sense of self and our place in the world. Individuals who experience such traumatic events are robbed of the normal opportunities for achieving well-being. Myriad maladaptive outcomes are frequent sequelae of such occurrences. Schisms between pre- and posttraumatic self; ruptures in normal avenues of intimacy; chaotic emotional processing; numbness, anxiety, sleep disturbances, and other symptoms of posttraumatic stress disorder; and questioning of values, beliefs, and attitudes, are frequently experienced, in part or in whole, by trauma survivors. Such highly stressful experiences are central to our definition of who we are and sense of identity (e.g., Berntsen & Rubin, 2006) and may severely challenge the integrity of our core beliefs (e.g., Cann, Calhoun, Tedeschi, Kilmer, Gil-Rivas, Vishnevsky, & Danhauer, 2010; Groleau, Calhoun, Cann, & Tedeschi, 2013). Those individuals who can successfully negotiate the demands for reorganization and consolidation of their new and emerging worldview enhance the probability that they will grow and be transformed in the process (Turner, Goodin, & Lokey, 2012).

Part of this transformation process involves meaning-making (e.g., Park, 2010), an active and evaluative search for the psychosocial antecedents and consequents of highly stressful, or traumatic, events. How did this happen? What role did I play in bringing it about? Why me? How can I understand, incorporate, and move on from this event? Such questions illustrate the complex, emotionally charged ideas, images, and memories which persons must coordinate and decipher in order to eventually derive a sense of purpose or meaning. A search for meaning is a core component of wisdom as well.

## WISDOM

Just as the idea of growth through adversity has a long and complex history, so too does the concept of wisdom (e.g., Karelitz, Jarvin, & Sternberg, 2010), which Webster (2010) defined as the “competence in, intention to, and application of,

critical life events to facilitate optimal development in self and others” (p. 71). Wise persons experience, and learn via reflection upon, important life events, the insights of which they apply to the lives of themselves and others to enhance the common good (Sternberg, 1998). The linking of highly stressful or traumatic events with wisdom comes from both the wisdom (e.g., Etezadi & Pushkar, 2013; Webster, 2013) and the posttraumatic growth (Aldwin & Levenson, 2004; Linley, 2003; Tedeschi & Calhoun, 2004) literatures, although to date, these ostensible linkages have been suggested rather than empirically tested. A few studies (e.g., Mansfield, McLean, & Lilgendahl, 2010; Webster, 2013) have investigated the link between difficult life events and wisdom, although measures of post-traumatic growth were not included.

#### SUMMARY AND OVERVIEW OF CONCEPTUAL MODEL

Life can sometimes be capricious, unfair, and cruel. Traumatic events can push some individuals into an abyss of mental despair. For others, however, a profound questioning of values and core assumptions in combination with a critical evaluation of the stressful event, its antecedents and consequents, allows for the emergence of strengths, psychosocial growth, and increased psychological well-being. Both posttraumatic growth and wisdom can be positive consequences of such critical events (e.g., Glad, Jensen, Holt, & Ormhaug, 2013; Webster, 2013). The direct relationship between traumatic events and psychological well-being, however, is most likely weak or negative, at least initially. Intermediate steps in the path from trauma to intrapersonal strengths include changes in our assumptive worlds (Janoff-Bulman, 1992) or worldview, as well as PTG and/or wisdom.

In the following conceptual model, changes in worldview, posttraumatic growth (PTG), and intrapersonal strengths (IPS) were conceived of as broad, latent variables. Worldview was indicated by changes in core beliefs and how central the traumatic event was to self identity; PTG was indicated by beliefs that one had grown through adversity and that one could identify certain benefits from coping with the trauma; IPS were indicated by positive evaluations of self-esteem; a sense that life had had purpose and meaning; and an optimistic view of the future. Wisdom was measured with a single, five factor scale assessing humor, reflection, exposure to critical events, openness to experience, and emotional regulation. Finally, trauma was measured by ascertaining how stressful or traumatic a recalled critical life event was for the person. Participants wrote a



narrative about the event and then rated the traumatic level of the event on a Likert-type scale.

We hypothesized (1) that at the bivariate level, stress would be uncorrelated with measures of PTG and IPS, but positively with measures of worldview; (2) worldview would be positively correlated with PTG but uncorrelated, or negatively correlated with IPS; and (3) PTG and wisdom would be positively correlated with each other as well as IPS. Using Structural Equation Modeling (SEM) we evaluated pathways from trauma to IPS through world view, PTG, and wisdom. Given the literature reviewed above, we predicted that trauma preceded and positively affected worldview, which in turn preceded and positively effected PTG and wisdom.

## METHODS

### Participants

Three hundred and twenty respondents participated in the study. The sample consisted of 130 males and 190 females ranging in age from 17 - 53 years ( $M = 20.85$ ,  $SD = 4.25$ ) who averaged 13.03 years of education ( $SD = 1.99$ ), and rated their subjective health relative to persons their own age as healthy ( $M = 4.95$ ,  $SD = 1.16$ ) on a 7-point scale where 1 = *poor* and 7 = *excellent* health. In terms of ethnicity, 32.8% of the participants identified their ethnicity as Caucasian, followed in descending order by Chinese Canadian (30.6%), Indo-Canadian (9.7%), Black (1.6%), Japanese (1.3%), and First Nations (.3%). Seventy participants (21.9%) identified themselves as "Other" and six (1.9%) did not provide ethnicity information. All participants were volunteers recruited from 1<sup>st</sup> and 2<sup>nd</sup> year psychology courses at a large, demographically diverse college in Vancouver. Respondents received nominal course credit for participation.

### Measures

**Critical life event narrative.** Participants were asked to write a brief narrative about the "most stressful or traumatic event in your life so far", defined as "*life events that were so upsetting and/or disruptive that there were strong implications for your well-being (e.g., physical, mental, and emotional health)*". Respondents were asked to include in the narrative information about emotions, cognitions,

behaviors, social interactions, and consequences pertaining to the life event. Persons rated the stressfulness of the event on a 7-point Likert type scale where 0 = *not stressful at all* to 6 = *traumatic*.

**Core beliefs.** The extent to which a person's core beliefs have been altered due to exposure to trauma, was measured with the Core Beliefs Inventory (Cann et al., 2010; CBI). The CBI is a 9-item scale which assesses to what extent the traumatic event has caused the person to re-evaluate their pre-existing beliefs about themselves, others, the world at large, and the future on a 6-point scale (0 = *not at all* to 5 = *to a very great degree*). Items are presented after the stem "Because of the event I seriously examined; and include: *“the degree to which I believe things that happen to people are controllable”*. Cronbach's alpha for the current study was .70.

**Salience of event to self.** How salient, or central, the traumatic event was to a person's sense of self, or personal identity, was measured with the Centrality of Event Scale - Short Form (Berntsen & Rubin, 2006; CES - SF). The CES - SF consists of 7 items, (*“I feel that this event has become part of my identity”*) on a 5-point Likert scale where 1 = *totally disagree* and 5 = *totally agree*. Cronbach's alpha for the current study was .83.

**Posttraumatic growth.** The Posttraumatic Growth Inventory - Short Form (Cann, Calhoun, Tedeschi, Taku, Vishnevsky, Triplett, & Danhauer, 2010; PTGI - SF) is a 10-item measure assessing the degree to which people who have experienced crisis events believe they have in some ways benefited, or grown, through experiencing the adversity. Items (*“I changed my priorities about what is important in life”*) are answered on a 6-point scale, where 0 = *I did not experience this change as a result of my crisis* to 5 = *I experienced this change to a very great degree as a result of my crisis*. Cronbach's alpha for the current study was .88.

**Benefit finding.** Benefit finding was measured with the 17-item Benefit Finding scale (Costa & Pakenham, 2012) which assesses a person's belief that the experienced stressor or trauma has contributed in some ways to an improvement or strengthening of intra- and interpersonal abilities. Participants respond to items (e.g., *“has taught me how to adjust to things I cannot change”*) on a 5-point scale where 1 = *not at all* to 5 = *extremely*. Cronbach's alpha for the current study was .87.

**Wisdom.** Wisdom was measured with the Self-Assessed Wisdom Scale (SAWS; Webster, 2010) a 40-item questionnaire reflecting the following five components of wisdom: Critical life experiences: *“I have experienced many painful events in my life”*; Reminiscence/reflectiveness: *“Reviewing my past helps me gain perspective on current concerns”*; Openness to experience: *“I like to read books which*

*challenge me to think differently about issues*"; Emotional regulation: *"I am very good about reading my emotional states"*; and Humor: *"Now I find that I can really appreciate life's little ironies"*. Participants respond to each question using a Likert type scale where 1 = *strongly disagree* to 6 = *strongly agree*. Cronbach's alpha for the current study was .87.

**Optimism.** Optimism was measured with the 10-item Life Orientation Test – Revised (Scheier, Carver, & Bridges, 1994). After deleting 4 distracter items, and reverse scoring three items, a total score (higher = greater optimism) is computed. Statements include, *"I'm always optimistic about my future"* on a 5-point scale where 1 = *disagree a lot*, and 5 = *agree a lot*. Cronbach's alpha for the current study was .78.

**Ego-integrity.** Ego-integrity was measured with the 15-item Northwestern Ego-Integrity Scale (Janus, Canak, Machado, Green, & McAdams, unpublished) which assesses a participant's position on Erikson's (1963) eighth developmental crisis of ego-integrity versus despair. Ego-integrity is the deeply held sense that one's life has had purpose and meaning and is indicated by agreeing to such statements as, *"I have reached a point where I can accept the events in my life as having been necessary"* on a 6-point scale where 1 = *strongly disagree* to 6 = *strongly agree*. The NEIS had good psychometric properties in its validation, and Webster (2010) reported a Cronbach's alpha of .81. Cronbach's alpha for the current study was .78.

**Self-esteem.** Self-esteem was measured with the 10-item Rosenberg Self-Esteem Scale (Rosenberg, 1965; RSE) in which participants respond to statements such as, *"On the whole, I am satisfied with myself"* on a 4-point scale where 0 = *strongly disagree*, and 3 = *strongly agree*. Cronbach's alpha for the current study was .89.

## Procedures

Mean imputation was used to handle cases with less than five percent of missing data. Twelve cases were dropped due to missing stress level responses and five cases with excessive missing data, resulting in a final sample size of 303 participants. We confirmed assumptions of data multivariate normality via visual inspection of histograms, Q-Q plots, as well as skewness and kurtosis statistics.

The structural equation model was built and tested with AMOS (V. 21) software with maximum likelihood estimation. We computed and reported both absolute fit indices, such as the Chi-square Test ( $\chi^2$ ) and the Root Mean Square Error of Approximation (RMSEA; Steiger & Lind, 1980), and comparative fit indices, such as the Normed Fit Index (NFI; Bentler & Bonett, 1980), the

Comparative Fit Index (*CFI*; Bentler, 1990), and the Goodness of Fit Index (*GFI*; Jöreskog & Sörbom, 1984). The absolute indices measures how close the estimated model is from the expected fit and a  $\chi^2$  *p* value greater than .05 indicates a good fit. However,  $\chi^2$  is easily inflated by large sample size (as in the current study) and suffers from logical difficulties (Bentler & Bonett, 1980). Therefore we reported  $\chi^2/df$  as suggested by Kline (2005) where values below 3 are deemed acceptable. Additionally, we reported the RMSEA and its associated confidence interval as the primary absolute fit index with cut-off values of < .08 generally deemed acceptable (MacCallum, Browne & Sugawara, 1996).

The comparative fit indices evaluate the improved fit of the estimated model relative to the null model in which all variables are assumed to be unrelated. The NFI compares the  $\chi^2$  of the estimated model to the  $\chi^2$  of the null model and values above .90 indicate a good fit. The CFI compares the non-centrality parameters of the estimated model and the null model and values above .95 indicate a good fit. The GFI is used to evaluate the degree to which the sample covariance matrix could be accounted for by the estimated covariance matrix and values above .90 indicate a good fit. Finally, the BIC is used to compare fittings of two or more models with emphasis on the parsimonies, and the model with smaller BIC is preferred.

## RESULTS

Means, standard deviations, coefficients alpha, and zero-order correlations of the variables included in the structural models are presented in Table 1. As expected, wisdom was significantly correlated with variables indicating change in worldview, PTG, and IPS. At zero-order, IPS indices were weakly correlated with PTG variables. Specifically, self-esteem was not significantly related to either PTGI, or benefit finding, scores ( $r = .11, .07$  respectively,  $p > .05$ ); ego integrity was weakly correlated with both PTGI and BF ( $r = .25, .25$  respectively,  $p < .01$ ), and optimism was not significantly related to either PTGI or BF ( $r = .11, .06, p > .05$  respectively). Optimism was negatively correlated with CES ( $r = -.13, p < .05$ ) and the relationships between other IPS indicators and worldview indicators are non-significant. Stress significantly correlated with CES, CBI, and wisdom ( $r = .39, .25, .19$  respectively,  $p < .01$ ) but not with IPS measures or PTG. Finally, all variables proposed as indicators of the latent constructs correlated strongly and

significantly among themselves (e.g., PTGI with BF,  $r = .79, p < .01$ ). Overall, this pattern of correlations is consistent with predictions.

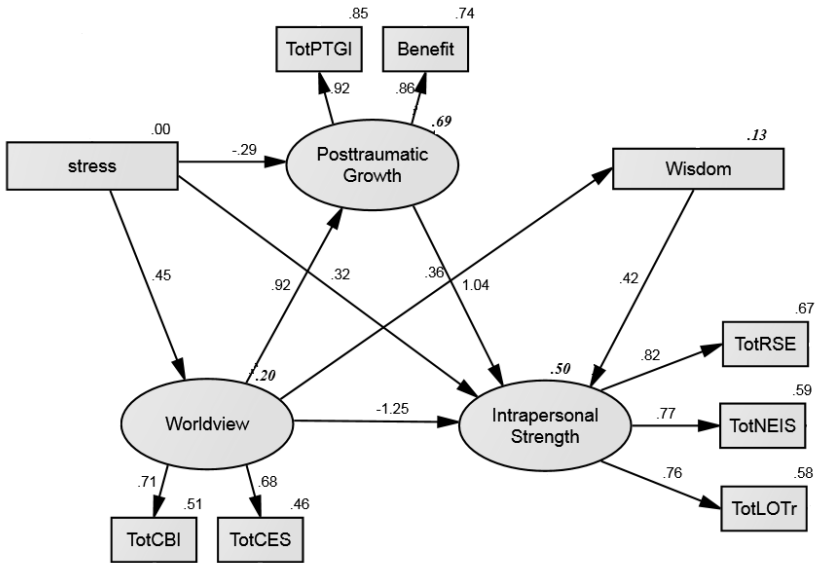
Table 1 Means, standard deviations, coefficients alpha, and zero-order correlations among main study variables

Variable	SAWS	Benefit	PTGI	CBI	CES	RSE	NEIS	LOTr	Stress
SAWS	--	0.29**	0.22**	0.25**	0.26**	0.20**	0.33**	0.20**	0.19**
Benefit		--	0.79**	0.52**	0.43**	0.07	0.25**	0.06	0.14*
TotPTGI			--	0.57**	0.43**	0.11	0.25**	0.11	0.10
TotCBI				--	0.48**	-0.08	0.00	-0.06	0.25**
TotCES					--	-0.09	-0.10	-0.13*	0.39**
TotRSE						--	0.62**	0.65**	-0.02
TotNEIS							--	0.56**	-0.04
TotLOTr								--	-0.02
Stress									--
M	176.51	53.36	26.71	27.77	23.39	28.83	56.18	19.76	4.67
SD	19.65	13.29	11.26	7.54	6.25	5.41	9.98	4.49	1.11
$\alpha$	0.87	0.87	0.88	0.71	0.82	0.88	0.78	0.77	n/a

Note: CBI = Core Belief Inventory; CES = Centrality of Event Scale; Benefit = Benefit Finding; PTGI = Posttraumatic Growth Inventory; SAWS = Self-Assessed Wisdom Scale; RSE = Rosenberg Self-Esteem Scale; NEIS = Northwestern Ego-Integrity Scale; LOTr = Life Orientation Test - Revised. \* =  $p < .05$ ; \*\* =  $p < .01$ .

### Structural equation models

Three latent variables were constructed prior to model fitting. The first latent variable interpreted as change in worldview was constructed with core beliefs and salience of event to self as indicators. The second latent variable interpreted as posttraumatic growth was constructed with posttraumatic growth inventory and benefit finding as indicators. The third latent variable interpreted as intrapersonal strength was constructed with optimism, ego-integrity and self-esteem as indicators. Finally, the recalled stress level of the traumatic event and the total SAWS score were included as observed variables in the path diagram. As can be seen in Figure 1, all three latent variables were viable and strongly associated with their predicted indices (for clarity of presentation, error terms associated with latent variable indicators have been eliminated).



Note: Bolded, italicized values represent amount of variance explained in latent variables. TotPTGI = total PTGI score; TotCBI = total CBI score; TotCES = total CES score; TotRSE = total RSE score; TotNEIS = total NEIS score; TotLOTr = total LOTr score; path values are standardized.

Figure 1 Stress to intrapersonal strength through worldview, PTG, and wisdom

Next, we investigated the pathway from stress to IPS through changes in worldview, PTG, and wisdom (see Figure 1). The estimated model had acceptable levels for the absolute indices,  $\chi^2/df = 2.74$ , RMSEA = .076, .90CI = [.053, .100]. The model fit well with data compared to the null model, NFI = .95, CFI = .96, and GFI = .96. All of the paths specified were significant at  $p < .001$ .

The results supported our hypothesis that trauma preceded worldview. Trauma directly accounted for 20% of overall variance in worldview. Further, worldview preceded both PTG and wisdom. In terms of the former, 69% of the overall variance in PTG was accounted for by stress and worldview. For wisdom, 13% of the overall variance was accounted via a direct path from worldview. Worldview negatively predicted IPS. This combination of worldview predicting both positive and negative features is consistent with Boals and Schuettler (2011) who found that the CES predicted both PTG and depression. Finally, 50% of the overall variance in IPS was accounted for by a combination of all four predictor

variables (i.e., stress, worldview, PTG, and wisdom). PTG and wisdom both had significant and positive effects on IPS after accounting for stress and worldview.

## DISCUSSION

We examined the relationship of traumatic events to worldview beliefs, posttraumatic growth, wisdom, and intrapersonal strengths. Our results indeed confirmed this link at the bivariate level. Wisdom was positively correlated with both PTGI scores ( $r = .22$ ) and Benefit Finding ( $r = .29$ ). The latter finding replicated Costa and Pakenham (2012) while the former finding was new evidence consistent with Tedeschi and Calhoun's (2004) theoretical conjecture that wisdom and posttraumatic growth are linked.

Our SEM findings add to the growing evidence that changes in worldview, as indexed by core beliefs and centrality of event to self, precede and positively predict posttraumatic growth. Traumatic events by themselves do not produce growth (as shown by the negative path weight of stress to PTG); rather highly stressful and disruptive events must be evaluated in light of their meanings and implications for the person. As part of this process persons may eventually come to realize unknown strengths and discover hidden benefits. Part of this growth ostensibly involves rekindling a positive hope for the future (optimism), feeling better about one's capabilities and coping resources (self-esteem), and discovering or reaffirming meaningful and purposive goals and values (ego-integrity). This claim is clearly supported by the strong positive path from PTG to IPS.

Our findings also provide some of the first direct empirical evidence that changes in worldview as a result of trauma also strongly predict levels of wisdom. Wisdom, as predicted, also significantly predicts IPS, although the standardized beta weight for this path is weaker than the same path for PTG. To account for this difference, it is important to emphasize that wisdom (unlike PTG) does not *require* trauma/stressful life events in order for it to manifest, as there are alternate routes to wisdom. Wise persons may attain this virtue through the experiencing of many positive, joyful, and loving interactions in addition to challenging stressful events, which may account in part for the weaker link from wisdom to IPS relative to the link from PTG to IPS.

## LIMITATIONS AND FUTURE DIRECTIONS

Several potential limitations of the current project need noting. First, since all measures were collected concurrently, our claim that traumatic events precede changes in worldview, which then triggers subsequent changes in PTG and wisdom, cannot be proven. To complicate matters, we believe that wisdom and PTG are almost certainly reciprocally related and that the complex interaction of narrative, worldview, PTG, wisdom, and IPS evolve in some dynamic, dialectical process (e.g., Linley, 2003). For instance, as specific stressors are successfully coped with, insights unique to that situation are stored in memory. Over time, multiple insights concerning trauma and its aftermath are hierarchically organized to produce more generalized wisdom which subsequently can be used as a resource to cope with later stressful/traumatic events. This issue can only be addressed via prospective longitudinal studies in which persons' levels of IPS, PTG, worldview, and wisdom are assessed pre-trauma and reassessed over time.

A second potential limitation in the current study is that all participants were young adult students. Although common expectations are that wisdom is the bailiwick of elderly adults, empirical research on this topic strongly disputes this (e.g., Webster, Westerhof, & Bohlmeijer, 2014). Nevertheless, although our intent was to examine PTG and wisdom in younger adults, future research will benefit from including adults from midlife and older adulthood. It is possible, for instance, that older adults' greater experience and potentially enhanced emotional regulation skills, mediate certain elements of the trauma to IPS relationship.

Finally, we asked persons to recall the most stressful or traumatic events they had experienced at any time during their lives rather than restricting recall to more recent events (such as those occurring within the last two or three years). This allowed for the possibility of increased memory distortions. It is possible, for example, that persons with a higher level of PTG recalled coping more effectively with the recalled traumatic event than persons lower in PTG. Mitigating this concern, Weinrib, Rothrock, Johnsen, and Lutgendorf (2006) showed that time since traumatic event was in fact uncorrelated with PTGI scores (i.e.,  $r = -.02, ns$ ). Similarly, in the current study, time since traumatic event was not significantly correlated with any study variables. Moreover, although the critical life event narratives were powerful and compelling, we lack psychometric information concerning issues such as reliability for this measure.



Despite these limitations, we have shown that PTG and wisdom are related, and that for some, traumatic life events can produce, after painful periods of profound reflection and struggle, positive psychosocial outcomes such as wisdom, posttraumatic growth, and intrapersonal strengths. Our results suggest that both PTG and wisdom share a common prior step in the path from trauma to IPS, namely change in worldview. When such fundamental assumptions are shattered, yet persons are able to engage "...in interpretations and evaluations that focus on benefits and lessons learned, survivors emphasize benevolence over malevolence, meaningfulness over randomness, and self-worth over self-abasement" (Janoff-Bulman, 1992, p. 133). This study provides important initial insights into what should prove to be a fruitful cross-fertilization between the posttraumatic growth and wisdom literatures.

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# CHAPTER 8

## General discussion

## GENERAL DISCUSSION

In this thesis we have provided conceptual and empirical evidence for a working model of wisdom development. Each chapter provides information concerning what we might call foundational elements of either antecedent or consequent conditions associated with wisdom. It is our contention that time perspective, whether an evaluation and application of past experiences (reminiscence) or an anticipation of, and planning for, future goals, are essential features of wisdom.

The goal of this concluding chapter is to integrate several of the variables identified in the earlier chapters into a working model of wisdom. Given that all the empirical evidence described in this thesis was generated via cross-sectional/correlational methods, our assignment of certain co-variables of wisdom as *antecedent* and others as *consequent*, is by necessity a convenient fiction. We recognize that many of the variables we describe can properly be seen as predictor, outcome, or even mediator/moderator depending upon the developmental context. For example, to describe empathy as a *consequence*, rather than a *precursor*, of wisdom, is somewhat artificial. One might argue a reverse causality, such that an initial well-developed sense of empathy enables persons to become more attuned to the needs of others, hence enabling the emergence of the interpersonal element of wisdom.

In fact, we conceptualize wisdom as an evolving, complex, and multidimensional process which dynamically interacts with many of the variables identified in Chapters 2 - 7. We return to this important issue of dynamic, reciprocal development later in this chapter. Nevertheless, there are some theoretical and/or conceptual guideposts which support at least some of our decisions. As one example, attachment style is initially formed in infancy, well before any of the major building blocks of wisdom emerge. In this case, we feel justified classifying attachment issues as antecedents of wisdom.

The overall heuristic model of wisdom showing proposed antecedent and consequent variables is illustrated in Figure 1. We include in the model representative findings from other studies by the author which employed the Self-Assessed Wisdom Scale (SAWS) but which are not a part of the current thesis, in order to increase the model's comprehensiveness. These variables are *italicized* in Figure 1. Our model is conveniently described using the acronym composed of the first letters of the five SAWS dimensions: **H**umor, **E**motional Regulation,

Reminiscence/Reflectiveness, Openness, Critical Life Experience, or H.E.R.O.(E) (Webster, 2013).

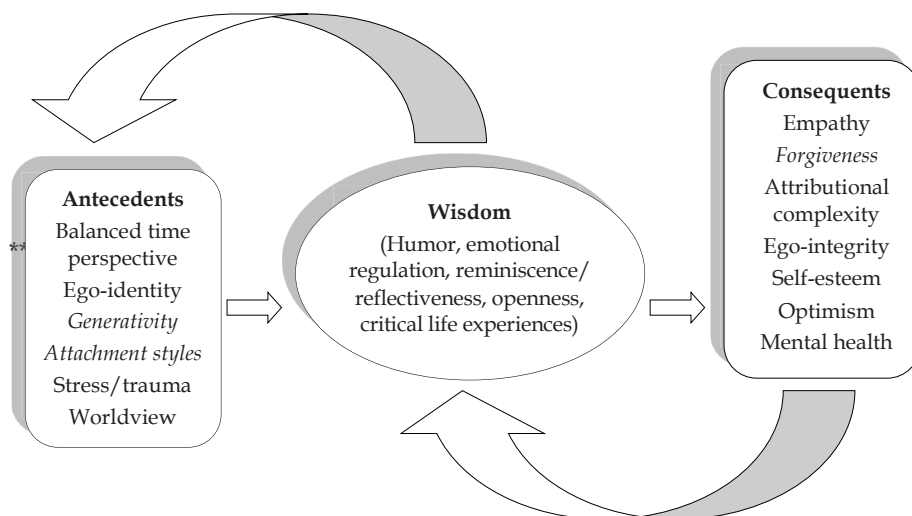


Figure 1 Antecedent and consequent variables of wisdom development

### The H.E.R.O.(E). model

As described throughout this thesis, wisdom is a complex, multi-dimensional construct. As such, it does not spontaneously manifest fully developed at some specific point in the life course. Rather, an initial host of supporting conditions and allied strengths gradually emerge. As persons increasingly coordinate antecedent skills and attributes, they become increasingly able to deal with life's exigencies. Success in dealing with critical life events reinforces the antecedent skills and facilitates new strengths in an iterative process. The dialectical synthesis of these antecedent and consequent relations enhances wisdom. One of the most consistently mentioned antecedent requirements for the emergence of wisdom is reminiscence and reflection (e.g., Ardelt, 1997; Birren & Fisher, 1990; Gluck & Bluck, 2013; Staudinger, 2001; Thomas & Kunzmann, 2013; Webster, 2003) which we address below.

### TIME PERSPECTIVE AND WISDOM

Without examining our past it is difficult, if not impossible, to learn from our mistakes. In Chapter 2 we presented a relatively comprehensive and critical



review of the reminiscence and life review literature. For the purposes of this thesis, we highlight the following features which have the most relevance to our model of wisdom, namely, a lifespan (developmental) perspective, individual differences, and connections to mental health.

Chapter 2 reinforces earlier (e.g., Webster & Cappeliez, 1993; Webster & Young, 1988) calls for a lifespan perspective on reminiscence. Beginning in infancy and continuing until the end of life, the majority of persons remember their past at least occasionally. What starts initially as a social bonding experience in which parents structure and enable recall in their child, eventually transitions into a sophisticated, self-initiated ability to selectively retrieve episodic memories for particular purposes. As children grow older, it is likely that they differentiate and augment forms of reminiscence to include purposes not seen earlier. For instance (although direct empirical evidence is not available) it is unlikely that 5 year children reminisce for purposes of death preparation. As life experiences accrue and societal expectations change (e.g., career and relationship pressures), young and older adults recall their past to deal with more varied and specific issues such as remembering loved ones who have passed away (i.e., intimacy maintenance) and to remember prior successful coping strategies (i.e., problem-solving).

Chapter 2 reviewed several studies which consistently showed that overall, there are no age differences in the *total* amount of reminiscing (as measured by the RFS) but theoretically consistent age differences in *specific* functions (e.g., younger adults higher on problem-solving and identity; older adults higher on death preparation and teach/inform). These results are consistent with findings presented in Chapter 5 in which young and older adults did not differ in the total amount of wisdom, but did differ in specific dimensions (e.g., young lower in critical experiences; older lower in humour). These findings support our contention that a lifespan perspective is warranted in the study of both reminiscence and wisdom development.

A second parallel between reminiscence and wisdom is the notion of individual differences. Chapter 2 highlights several contextual and personality variables associated with different types and frequencies of reminiscence. Similarly, the emergence of wisdom over time is also correlated with specific traits or conditions (e.g., Randall & Kenyon, 2001; Mickler & Staudinger, 2008). For instance, Webster (2010) found that both attachment avoidance and attachment anxiety were negatively correlated with scores on the Self-Assessed Wisdom Scale (SAWS). Stated another way, this finding suggests that persons

who start out life securely attached to primary caregivers have an enhanced probability of developing wisdom later on. Other individual difference variables, such as the personality trait of extraversion, predict aspects of both reminiscence and wisdom. Chapter 6 highlights the connection between wisdom and the individual difference variable of identity styles.

Finally, both reminiscence (Chapter 2) and wisdom (Chapters 5 and 7) have strong connections to mental health. One of the strongest reminiscence predictors of negative well-being is bitterness revival. Individuals who frequently recall episodes from their past in which they perceive themselves to have been unjustly treated, or unfairly limited by specific persons, situations, or life in general, are oftentimes resentful, anxious, and depressed. Unable to let go or move on, these persons rekindle strong aversive emotions and maintain negative affective states which may jeopardize interpersonal relationships and impair efficient functioning. In contrast, although wise persons certainly do experience painful and stressful events (see Chapter 7), rather than ruminate about such occurrences they evaluate them with appropriate dispassion in an effort to learn from the experience, put it in perspective, and eventually weave it into their lifestory (e.g., Gluck, Bluck, Baron, & McAdams, 2005; Plews-Ogan, Owens, & May, 2013). Moreover, consistent with our definition of wise persons sharing their hard won life insights with others, we expect that positive interpersonal uses of reminiscence such as teach/inform are higher in wise persons as are the positive intrapersonal functions of identity and problem-solving. In short, remembering our personal past is recognized by wisdom researchers as a key element of wisdom. In contrast, although an intuitive connection in lay persons between wisdom and a future time perspective exists (e.g., cultural prescriptions that planning for the future is wise manifested in fairy tales and Aesop's Fables) direct empirical investigation of the link between wisdom and a future time perspective is conspicuously lacking.

Chapters 3 and 4 extend the discussion of time perspective to include a future orientation. Chapter 3 introduces a new measure of balanced time perspective, and Chapter 4 illustrates the relationship of a balanced time perspective to mental health and wisdom across the lifespan. Noting positive psychosocial outcomes associated with certain reminiscence processes and a future orientation separately, Webster (2006) piloted an instrument which enabled the assessment of both positive past and positive future time perspectives jointly.

Chapter 3 describes the development and initial validation of the Balanced Time Perspective Scale (BTPS). Using a sample of 238 ethnically diverse young

adults ( $M = 21.2$  years) participants were administered the 28-item BTPS as well as measures of happiness, well-being, and self-esteem. A principal components analysis (PCA) produced two theoretically consistent and distinct temporal orientations: a 14-item positive past subscale ( $\alpha = .88$ ) and a 14-item positive future subscale ( $\alpha = .92$ ). Median splits on the two subscales produce a four-category model. Persons scoring below the median on both subscales were categorized as time restrictive; those higher than the median on the past but below the median on the future were categorized as reminiscers; those higher than the median on the future but lower than the median on the past were categorized as futurists; and those persons scoring higher than the median on both subscales were categorized as time expansive, representing a balanced time perspective.

Consistent with predictions, a balanced time perspective was associated with higher scores on the three measures of subjective well-being (SWB), as well as the appropriate subscales of the Zimbardo Time Perspective Inventory (ZTPI) indicating convergent validity. These results represent encouraging initial steps in the validation of the concept of a balanced time perspective. Persons who report thinking about both their past and their future in positive ways quite frequently tend to score higher on measures which contribute to SWB more so than individuals with different temporal orientations.

These findings are qualified by the fact that the time expansive category was not statistically higher than the futurist category on measures of SWB, although for happiness and satisfaction with life the time expansive category was higher in absolute value. The relatively small sample size ( $N = 146$ ) may have contributed to this lack of statistical significance. Further, as noted in Chapter 3, the sample consisted of young adults who have a strong future orientation. After variance in the well-being measures is accounted for by a positive future, additional variance accounted for by a positive past may not be enough to differentiate the futurist from the time expansive category at a statistically significant level, particularly in a small sample as noted above. Indeed, in a larger replication study, Webster and Ma (2013) found that the time expansive category was in fact statistically different than the futurist category for both happiness and satisfaction with life.

Additional important limitations in Chapter 3 results include possible limitations in using a median split to create categories (because this would mean that assignment to categories would most likely differ from sample to sample), lack of middle-aged and older adults, and lack of additional measures (e.g.,

personality traits) which might influence the results. Chapter 4 directly addresses these and other issues.

Chapter 4 describes one of the first, to our knowledge, attempts to directly link a balanced time perspective to wisdom. As such, it represents an important initial step in investigating if and how these two broad areas are associated. Chapter 4 builds on the results of Chapter 3 by conceptually replicating the link between a balanced time perspective and well-being in a large ( $N = 512$ ) lifespan sample of Dutch adults ( $M_{age} = 46.46$ ,  $SD = 21.37$ ), including 186 male and 326 female participants representing three age groups (i.e., young, midlife, and older). Using the categorical scheme introduced in Chapter 3, the results of the two studies were highly similar with respect to well-being. Using a broader measure which assessed psychological, emotional, and social well-being (i.e., the Mental Health Continuum-Short Form; MHC-SF), results again showed that a balanced time perspective (i.e., the time expansive category) scored higher on mental health than either the time restrictive and reminiscers categories. Paralleling the findings from Chapter 3, the time expansive category was higher than the futurist category in absolute terms (i.e.,  $M = 60.1$  versus  $M = 57.3$ , respectively), but this did not attain statistical significance. Given that Webster and Ma (2013) found that the time expansive category was statistically higher than the futurist category for the dependent variables of satisfaction with life (SWLS) and happiness (OHQ), when coupled with the present results, we conclude that there is a small but real difference between the time expansive and futurist categories in mental health.

The findings for the balanced time perspective-wisdom link provide stronger support to our hypothesis. Persons in the time expansive category scored significantly higher than all three other categories (i.e., time restrictive, reminiscers, and futurists). This supports our conjecture that wise persons draw upon positive past experiences as well as anticipate positive future goals and activities. Moreover, results from our regression analyses using the deviation from optimal scores as our measure of BTP, suggest these results are strong enough to be evident even after several demographic, health, and personality variables are accounted for.

### **Interim summary**

Both implicit and explicit (Sternberg, 1990) theories of wisdom generally concur on the issue of temporal perspective and wisdom, at least insofar as reminiscence is concerned. Wise persons do not dwell on the past, but rather use their rich

storehouse of episodic memories as “biographical capital” which they can draw upon when needed. Confronted by both everyday challenges and more extraordinary stressors, wise individuals remember prior successful strategies which might be useful in the present. They recapture richly textured memories of love, laughter, and pride in an effort to regulate emotions. And they share both triumphs and painful failures with important social intimates to teach valuable life lessons in a mentoring process.

Similarly, understanding the wisdom of preparing for the future, long-range planning (e.g., for health, finances, relationships), and generally looking ahead, is well-embedded in folk culture. There are some examples of at least indirect recognition of the importance of the future in explicit wisdom models. For instance, Baltes’ and colleagues Berlin Wisdom Paradigm (BWP) has as one of its core components the recognition of uncertainty. At least implicitly, then, one part of wisdom involves making multiple future plans on the understanding that future events may be beyond our control and so the development of alternatives is a prudent course of action. We have argued that combining the positive features of remembering our past and anticipating our future have additional benefits. In Chapters 3 and 4 we provide some of the first evidence that a balanced time perspective is indeed associated with well-being and wisdom.

### ANTECEDENTS/CONSEQUENTS OF WISDOM

Chapters 5, 6, and 7 emphasize the non-temporal antecedents and consequents of wisdom. According to Erikson (1963), ego-identity development is the central task of late adolescence and emerging adults, while a possible strength of the last psychosocial task of ego-integrity (seen in late adulthood) is wisdom. As such, identity precedes wisdom. Nevertheless, Erikson argued that later emerging psychosocial crises have their roots in early life and primitive forms of such strengths can be seen before they become a dominant focus for the developing person. For instance, the initial trust of infancy may be a precursor to full-blown intimacy seen in young adulthood; in both stages of development, trust in new intimate partners is paramount. In this respect, *identity* (who am I becoming?) may well contain the seeds of wisdom expressed in *ego-integrity* (who have I been?).

Chapter 5 investigated age differences in wisdom, as well as the relationship of wisdom to mental health. Using the same large lifespan sample

reported in Chapter 4, results indicated that midlife adults reported the highest level of wisdom relative to younger and older adults, who did not differ from each other. An analysis of the individual factors of the SAWS indicated important age trends, which collectively add to our understanding of age differences in wisdom and its possible development.

Consistent with prior work in the reminiscence domain (Chapter 2) the only SAWS dimension which did not show age differences was the reminiscence/reflection component. As we have argued, reminiscence is a pervasive process with several potentially positive and negative features. A closer inspection of the items constituting the reminiscence/reflectiveness dimension illustrates an important possible caveat to our reported lack of age differences. Specifically, items in the SAWS include ("*Reviewing my past helps me gain perspective on current concerns*" and "*I often find memories of my past can be important coping resources*", both of which are similar to the RFS function of problem-solving) and ("*I often recall earlier times in my life to see how I've changed since then*", which is similar to the RFS function of identity). As noted earlier, both problem-solving and identity are RFS functions typically seen in younger adults to a higher degree than older adults. This may mean that the reminiscence/reflective wisdom levels assessed in the SAWS might inadvertently suppress to some extent the scores of older adults on this subscale.

In terms of the SAWS dimensions which did show significant age differences, the pattern of findings is instructive. Midlife adults have higher levels of openness relative to older adults. This suggests that midlife adults, like younger persons, seek new experiences (rather than safe, comfortable routines), are willing to entertain discordant viewpoints, and have a greater willingness to tolerate others from diverse backgrounds. Consistent with socioemotional selectivity theory (Carstensen, 2006), older adults (who have a shorter FTP) de-emphasize external, informational pursuits (e.g., travel, novelty in partner selection) and focus instead on emotional goals (e.g., strengthening bonds with familiar others). While this apparently contributes to higher levels of happiness in older adults, it may partly account for the reduction of openness scores on the SAWS. In support of this contention, Thomas and Kunzmann (2013) recently found an inverse relationship between age and openness to thinking about negative life events, specifically marital conflict.

Midlife adults also score higher on humour relative to older adults. Humour, as assessed via the SAWS includes a sense of appropriate levels of self-

deprecation, or not taking oneself too seriously, an ironic stance on life and its unpredictable foibles, an effort to use humour to ease stressful experiences, as well as an altruistic intent to make others feel better through the use of appropriate humour. As such, humour is an important heuristic of self-regulation which "...helps to cope with various difficult and challenging situations" (Staudinger, 2013, p. 9). As expressed in Chapter 5, there are relatively few empirical studies examining age differences in humour (at least a type similar to that measured in the SAWS) and it is, therefore, difficult to explain these results. This is clearly a topic for future work.

Emotional regulation is highest in midlife adults relative to both younger and older participants. Younger adults are often confronting novel and challenging tasks for the first time (e.g., relationships, identity development, career choices, leisure pursuits, and health behaviours, to name a few) with cognitive and emotional capacities which are still developing. Moreover, relatively immature neurological systems (e.g. frontal lobe) contribute to poor behavioural choices which subsequently produce emotional turmoil. In contrast, older adults apparently manage their emotions in a biased fashion, exhibiting a "positivity effect". When faced with unpleasant thoughts and emotions, older adults tend to redirect their focus (e.g., both perception and attention) to happier aspects in an effort to maintain a positive emotional state. This bias is also seen in autobiographical recall (e.g., Kennedy, Mather, & Carstensen, 2004; Webster & Gould, 2007). This suggests that younger adults are less capable, and older adults less motivated, to regulate emotions in a balanced, adaptive way. Midlife adults, in comparison, have the cognitive-emotional maturity lacking in young persons, as well as the motivation and/or cognitive capacity lacking in older persons, to appropriately experience and understand both positive and negative emotions. It is important to reiterate at this point that wisdom is not synonymous with happiness. Wise persons do not avoid negative cognitions and emotions when appropriate, but neither are they overwhelmed by them.

Finally, as expected, midlife and older adults have, on average, more critical life experiences than younger adults. In this respect, chronological age is an index of cumulative life events which are painful, stress-inducing, and perhaps even traumatic and life changing. However, as the preceding discussion should make clear, simply experiencing a greater number of critical life events, in and of itself, does not produce wisdom. Indeed, for some individuals, exposure to such events may be overwhelming and contribute to despair, hopelessness, and the eventual development of mental illness. In contrast, if persons are able to regulate their

emotional reactions, use humour as a coping mechanism, remain open to new ways of dealing with life's challenges, and draw upon an extensive pool of supportive memories, then such difficult life occurrences can become a catalyst for wisdom. Chapter 7 addresses such claims within the framework of posttraumatic growth.

Chapter 6 examined the relationship among identity, wisdom, and critical life experiences. Participants in this study (112 women and 47 men ranging in age from 17 - 38,  $M = 20.42$ ,  $SD = 3.62$ ) were also asked to provide a brief written narrative about a particularly stressful time in their life. This narrative was then coded for themes (i.e., insight, closure, contextual complexity, and intensity) which were predicted to be indicative of a wise person. Correlational analyses supported study hypotheses in that the more mature forms of identity styles (i.e., the informational style) were positively correlated with wisdom. Moreover, wisdom was also positively correlated with the critical life event narratives. Wiser persons told stories in which they recognized the part they played in the stressful event (i.e., insight), as well as understanding the multiple contextual variables (i.e., contextual complexity) which may have contributed to the critical life event's initiation and resolution. Wise persons were more able to integrate these factors, as well as the thoughts and emotions which accompanied the experience and move forward with their lives (i.e., closure). As noted in Chapter 6, however, a limitation in the study was the lack of inter-rater reliability estimates and so this finding must be interpreted with due caution.

Wisdom was also positively associated with both attributional complexity and empathy. Consistent with the findings regarding critical life event themes, wise persons recognize that most complex human behaviour has multiple determinants. As such, an ability to search for and identify several interacting events contributes to enhanced understanding of social dynamics and interpersonal behaviour. These results are consistent with the notion that wise persons have well-developed perspective-taking skills (e.g., Ardel, 1997).

Moreover, wise persons scored higher in empathy, which again is considered a key consequence of wisdom. The positive correlation between the SAWS and empathy reported in Chapter 6 has recently been replicated in a German sample using the same assessment measures (Gluck, et al, 2013). Cognitive skills (such as attributional complexity) may combine with the "other-related" dimension of the H.E.R.O.(E) model of wisdom to facilitate empathy. In other words, wise persons are motivated by, and have the ability to, understand the motivations and intentions of another (theory of mind). Moreover, because



they can see themselves in the wants and needs of other human beings, their capacity for and expression of empathy is increased.

Several authors within the wisdom field agree with the contention that wisdom is forged in the crucible of difficult life experiences (e.g., Birren & Fisher, 1990; Etezadi & Pushkar, 2013; Gluck & Bluck, 2013; Karelitz, Jarvin, & Sternberg, 2010; Staudinger & Gluck, 2011; Webster, 2010). Chapter 7 discusses some of the strong parallels between this idea and the concept of posttraumatic growth. Throughout their lives, persons may encounter events so stressful that they are left bereft of their normal mechanisms for understanding their world. For some, this initial shock may trigger a cascade of aversive emotions, disruptive thoughts, and maladaptive behaviours, ultimately contributing to poor mental health if not outright clinical pathology. For others, however, this initial shock may instead initiate a process of support-seeking, self-evaluation, reassessment or confirmation of core values, and a search for meaning. This latter pathway is assumed to lead to posttraumatic growth as well as wisdom. Chapter 7 is one of the first studies to directly test the ostensible link between posttraumatic growth and wisdom.

We investigated different steps in the pathways from highly stressful or traumatic life events to psychological well-being. Since each of these steps is complex, and single measures of each might miss important elements, we conceptualized the steps as latent variables indexed by two or more manifest variables. Since the SAWS is already a five-factor instrument, we used this as the sole index of wisdom. The bivariate results showed a significant positive correlation between wisdom and both indices of posttraumatic growth (PTG) providing preliminary support for a PTG-wisdom link postulated in the PTG literature (e.g., Aldwin & Levenson, 2004; Joseph & Linley, 2005; Linley, 2003; Plews-Ogan, Owens, & May, 2013; Tedeschi & Calhoun, 2004).

Using structural equation modeling, we confirmed a positive path from trauma to worldview. Highly stressful events frequently require a reassessment of core beliefs (about the self, others, and the world in general) as well as evaluating how central to the self the event was, or continues to be. Levels of worldview then positively predicted both PTG and wisdom. When one's assumptive world (Janoff-Bulman, 1992) is shattered, persons question former beliefs about themselves and their world. They must identify and evaluate new ways of conceiving themselves, understanding relationship dynamics, and achieving valued future goals. These fundamental attempts at meaning making contribute to wisdom. Finally, and consistent with the wisdom and mental health findings

reported in Chapter 5, both PTG and wisdom positively predicted psychological well-being (indexed by measures of optimism, ego-integrity, and self-esteem). When perceived through the lens of wisdom, traumatic events may eventually allow persons to feel better about themselves, find new meaning in life, and face the future with greater optimism.

## LIMITATIONS, STRENGTHS

In addition to study specific limitations noted in each chapter, a few overarching limitations in the current thesis need to be addressed. Foremost is the fact that all data is cross-sectional. Any claims regarding true developmental effects, rather than simple cohort differences, are unwarranted. Moreover, our model only includes a small sample of potentially relevant antecedent and consequent variables. Many other factors (e.g., personality, intelligence, religious belief, and culture/ethnicity factors) are likely to play a role in the emergence of wisdom. Similarly, there are other outcome variables associated with wisdom not explored in this thesis such as compassion (Konig & Gluck, 2013) and transcendence (e.g., Levenson, Jennings, Aldwin, & Shiraishi, 2005). Additionally, assuming certain variables emerge prior, and other variables emerge subsequent, to wisdom is problematic. We recognize our model can only provide a static snapshot of wisdom for exposition purposes, and that alternate ways of organizing the data are possible.

For instance, a non-developmental approach might investigate cognitive, social, and emotional predictors of wisdom. In this scenario we might classify attributional complexity, identity processing styles, a balanced time perspective, and worldview as cognitive variables; empathy, forgiveness, generativity, and attachment styles as predominantly social variables; and self-esteem, optimism, mental health, and posttraumatic growth as emotional variables. Such a classification system might actually be simpler than the one proposed in Figure 1 as it does not require determining which of these variables develops before the others, but rather only whether these variables are significant predictors of wisdom.

Using this tripartite framework as a lens, we can see that both time perspective and wisdom are associated with complex and evaluative thought processes (i.e., thinking deeply about self, identity, and one's philosophy); meaningful social engagement (i.e., establishing loving, trusting relationships while nurturing an empathic, generative concern for others); and fostering

wellbeing through meaningful life pursuits (i.e., achieving adaptive levels of both hedonistic and eudaimonic outcomes). Nevertheless, as our proposal, (generally supported by others in the field; Gluck & Bluck, 2013; Linley, 2003), is that wisdom development is almost certainly a dynamic, dialectic process, we retain the organization of the variables as antecedent or consequent to explore possible developmental components of wisdom.

Additional caveats concerning the main measures used to assess time perspective and wisdom deserve comment as well. With respect to time perspective, the BTPS is a new instrument; although preliminary psychometric indicators are very promising, further validation is warranted. The main conceptual issue is the absence of a present time component. As discussed in Chapter 3, this omission was intentional. One reason concerns the fact that a major measure of time perspective which does assess a present orientation (i.e., the Zimbardo Time Perspective Inventory; ZTPI) shows that there are many negative cognitive-emotional-sociobehavioural consequences for both a present hedonistic and present fatalistic perspective. A second reason is that performing a median split on three (i.e., past, present, and future) rather than two dimensions, would produce an untenable classification scheme (i.e., 1 balanced time perspective: high past, high present, high future, and 7 "unbalanced" categories). This would produce a very conceptually confusing and artificial taxonomy. One scoring solution which was only reported subsequent to the development of the BTPS is the deviation from optimal score described in Chapter 4. This technique can be used for any number of categories and so future development of the BTPS may include a positive present factor. Indeed, preliminary work in this area is currently being conducted (Vowinckel, Webster, Westerhof, & Bohlmeijer, in preparation).

With respect to wisdom, the SAWS represents one particular means of assessing this construct. Other measures are available including performance measures (e.g., the BWP) and additional questionnaire measures (e.g., Ardelt's 3D-WS). However, the former measure is heavily cognitively loaded and requires extensive and expensive training to achieve acceptable inter-rater reliability standards. Ardelt's (1997) 3D-WS measure was originally constructed from multiple tests not designed to measure wisdom, does not show factor replication, and has been associated with social desirability limitations (e.g., Taylor, Bates, & Webster, 2011).

Despite these limitations, the current thesis also has several strengths. First, given that Gluck and Bluck (2013) state: "Little theoretical and even less empirical work has directly addressed how wisdom might develop over a lifetime" (p. 75),

we feel the model developed in this thesis (see Figure 1) provides an important heuristic conceptualization. Second, we introduce a number of early, if not first, explorations of key areas. For instance, the construction and continuing validation of the BTPS allowed for the first direct test of the association between a balanced time perspective and wisdom (Chapter 4), and Chapters 6 and 7 present some of the first evidence of the link between identity development and posttraumatic growth with wisdom, respectively. Given these strengths, and keeping the previously identified limitations in mind, we nevertheless give ourselves license at this point to speculate beyond our data for heuristic purposes. We present below only one possible example of a highly speculative, yet plausible, developmental scenario which incorporates many of the antecedent and consequent variables in an integrative fashion.

For instance, imagine a child starting life with a secure attachment style. Part of this involves perceiving caregivers and the world as nurturing, supportive, and safe, constituting a positive worldview. Generally positive experiences are then available for reminiscence, stimulated by elaborative styles engaged in by parents. Such frequent retrieval of positive past experiences contributes to a developing sense of self (i.e., ego-identity status [i.e., identity achieved] and processing style [i.e., informational style]) and emotional regulation strategies. Positive past retrieval triggers subsequent thoughts of future goals and an openness to explore myriad possibilities in life. Throughout this early process, if parents allow children to experience minor stressors and challenges by teaching/modelling successful problem-solving strategies, then children are essentially "inoculated" to some extent against similar future stressors.

Early in life, then, certain traits, environments, and experiences produce an emerging, partial level of wisdom which then feeds back to reinforce these initial thoughts, emotions, and behaviours (e.g., reminiscence becomes increasingly evaluative and differentiated). As the child and young adult continues to mature, preliminary, or low-level wisdom, contributes to the development of later developing skills. For instance, openly and critically reflecting on life experiences enables the person to see that many stressful life events are caused by the nexus of multiple, interacting forces (i.e., attributional complexity) that are oftentimes out of a person's control (i.e., empathy), and that other people involved in the traumatic or stressful event may be victims of circumstance, or had no intention to produce harm to the afflicted party (i.e., forgiveness). Understanding and forgiveness feedback to the wisdom components of emotional regulation which then influences the originally antecedent conditions of identity (e.g., "I am a forgiving person") and

generativity ("By empathizing and forgiving I can help other people"). This process continues throughout life and when subsequent stressful/traumatic events occur, wise persons can re-establish positive working models of the world, optimism about the future, achieve ego-integrity, as well as maintain or enhance mental health. We reiterate here that the above is not an empirical fact, but rather a theoretical conjecture meant to stimulate further investigation.

### FUTURE DIRECTIONS

Future research, then, consists of many possibilities. One would be to directly test some of the specific connections illustrated above. For instance, short term longitudinal studies could assess divergent pathways to emotional regulation in childhood. Securely versus insecurely attached infants could be followed to see whether parental reminiscing styles are associated with attachment qualities, and whether a securely attached to elaborative reminiscence style pathway predicts better emotional regulation strategies in later childhood.

Another area would be to see how traumatic events impact time perspective. It seems likely that traumatic events would greatly restrict a future orientation. The immediate challenges of coping with the stressor on a day to day level would likely restrict a person to a present temporal orientation, perhaps a present fatalistic time perspective as described by Zimbardo and Boyd (1994). Would wisdom act as a mediator in such a case? Perhaps the strong association between stress severity and present fatalism would be partially, or wholly, accounted for by wisdom.

A third example concerns continuing scale refinement. For instance, as mentioned above, development of a present subscale for the BTPS might be valuable. In the interim, one could test whether the time restrictive category in the BTPS is the same as the present fatalistic category of the ZTPI. Examining similarities and differences between the BTPS and Carstensen's future time perspective scale (FTP) would also prove instructive. The latter only deals with perceived time remaining rather than the cognitions and emotions contained in the BTPS. One might assume that the time expansive category of the BTPS would be strongly and positively correlated with the FTP. However, just because one foresees a long time left to live does not necessarily imply that one would be happy or content with this perception. What about, for instance, a young person

with a severely disabling condition (e.g., multiple sclerosis) who might expect to live for many more years but whose quality of life is poor. What about prisoners? Or consider older, yet physically fit older adults who foresee a long future, but one filled with endless days of caregiving for a demented spouse?

Finally, examining the link between wisdom, trauma, and narrative holds much promise. One means of pursuing and eventually achieving meaning and wisdom may be accomplished by weaving myriad, often disparate, elements of the trauma into an evolving and coherent narrative (e.g., Bauer, McAdams, & Sakaeda, 2005; Berntsen & Rubin, 2005; Mansfield, McLean, & Lilgendahl, 2010; Pals, 2006). Through narrative themes such as redemption stories (McAdams, 2006), persons are able to understand broader patterns in their lifestory; events, even very difficult and painful ones, are seen as part of a complex and evolving autobiography. Through writing, reading, and editing the texts of who we are (Randall & Kenyon, 2001) we are able to identify and eventually celebrate emerging strengths, one of which may be wisdom.

## CONCLUSION

Wisdom is an esteemed quality which has been sought by persons throughout recorded history and across all societies. Psychological science has only recently investigated this complex and dynamic process. Wisdom requires developmental time to evolve and mature, and the path to wisdom is a serpentine one we continually travel. Wisdom also involves assimilating personal time perspectives, including the powerful urge to understand ourselves through autobiographical reflection as well as the compelling teleological pull to look to our future. This thesis has documented, albeit in broad strokes, a preliminary developmental framework incorporating time perspective and other fundamental antecedent and consequent variables associated with wisdom. We hope the heuristic utility of the presented model engenders future discussion, evaluation, and empirical testing, as many questions remain. At this time however, it may be prudent to heed a perceptive sage from antiquity:

*"Wise men talk because they have something to say, foolish men because they have to say something". - Aristotle.*

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## SUMMARY IN DUTCH

In dit proefschrift zijn mogelijke antecedente en consequente variabelen van de ontwikkeling van wijsheid onderzocht, met bijzondere aandacht voor het tijdsperspectief. In hoofdstuk 1 is uiteengezet wat het belang is van het tijdsperspectief, met name herinneringsprocessen, voor de ontwikkeling van wijsheid. Vervolgens is er een wijsheidsmodel, het H.E.R.O.(E)-model, beschreven en zijn de vijf onderdelen van het model beschreven. Ten slotte zijn de onderzoeken, die in het proefschrift per hoofdstuk worden besproken, kort geïntroduceerd.

In hoofdstuk 2 hebben we een vrij uitgebreide en kritische bespreking opgenomen van de literatuur over reminiscentie en life-review, met speciale aandacht voor de onderstaande aspecten, die het relevantst zijn voor ons wijsheidsmodel, namelijk een levensduur- (ontwikkelings-)perspectief, individuele verschillen en relaties met de geestelijke gezondheid. In hoofdstuk 2 worden eerdere (bijv. Webster & Cappeliez, 1993; Webster & Jong, 1988) pleidooien voor een levensduurperspectief ten aanzien van reminiscentie bekrachtigd. De meeste mensen herinneren zich vanaf hun kindertijd tot aan het eind van hun leven, ten minste af en toe, hun verleden. Wat aanvankelijk begint als een ervaring van sociale binding, waarbij ouders het kind stimuleren zich dingen te herinneren en waarbij zij die herinnering structureren, gaat uiteindelijk over in een verfijnd, zelf-geïnitieerd vermogen om selectief episodische herinneringen op te halen voor bepaalde doelen. Naarmate de levenservaringen toenemen en maatschappelijke verwachtingen veranderen (denk aan carrière- en relatiedruk), herinneren jongvolwassenen en oudere volwassenen zich hun verleden om met gevarieerdere en specifiekere thema's te kunnen omgaan, zoals het zich herinneren van overleden geliefden (behoud van intimiteit), en om zich eerdere succesvolle copingstrategieën (probleemoplossing) te herinneren.

In hoofdstuk 2 zijn verschillende onderzoeken besproken waarin consequent is aangetoond dat er (volgens metingen van de reminiscence function scale; RFS) over het geheel genomen geen leeftijdsverschillen zijn wat betreft de *totale* omvang van reminiscentie, maar dat er wel theoretisch consistente leeftijdsverschillen zijn wat betreft *specifieke* functies (jongere volwassenen scoren bijv. hoger op probleemoplossing en identiteit; oudere volwassenen scoren hoger

op voorbereiding op de dood en leren/informereren). Die resultaten stroken met de bevindingen die in hoofdstuk 5 worden gepresenteerd, waarin er wat de totale hoeveelheid wijsheid betreft geen verschil was tussen jongvolwassenen en oudere volwassenen, maar waarin wel verschil was wat specifieke aspecten betreft (jongvolwassenen scoren bijv. lager op kritische ervaringen; oudere scoren lager op humor). Die bevindingen staven onze stellingname dat een levensduurperspectief in het onderzoek naar zowel reminiscentie als de ontwikkeling van wijsheid gerechtvaardigd is.

Een tweede overeenkomst tussen reminiscentie en wijsheid is de notie van individuele verschillen. In hoofdstuk 2 worden verschillende contextuele en persoonlijkheidsvariabelen in verband gebracht met verschillende soorten en frequenties van reminiscentie. Op soortgelijke wijze bestaat er ook een correlatie tussen het ontstaan van wijsheid en specifieke karaktertrekken of omstandigheden (bijv. Randall & Kenyon, 2001; Mickler & Staudinger, 2008). Webster (2010) heeft bijvoorbeeld vastgesteld dat er een negatieve correlatie bestaat tussen zowel hechtingsvermijding als hechtingsangst en scores op de Self-Assessed Wisdom Scale (SAWS). Deze bevinding wijst er met andere woorden op dat mensen die vanaf het begin van hun leven veilig gehecht zijn aan hun primaire verzorgers, een verhoogde kans hebben om later in hun leven wijsheid te ontwikkelen. Andere individuele verschilvariabelen, zoals de extraverte persoonlijkheidstrekk, voorspellen aspecten van zowel reminiscentie als wijsheid. In hoofdstuk 6 wordt nader ingegaan op de relatie tussen wijsheid en de individuele verschilvariabele identiteitsstijlen.

Reminiscentie (hoofdstuk 2) en wijsheid (hoofdstuk 5 en 7) zijn ten slotte nauw verbonden met de geestelijke gezondheid. Een van de sterkste voorspellende reminiscentie-indicatoren van negatief welbevinden is het herleven van verbittering. Mensen die vaak terugdenken aan perioden in hun verleden waarin zij, in hun beleving, onrechtvaardig zijn behandeld of waarin zij door bepaalde mensen, situaties of het leven in het algemeen onterecht zijn tegengewerkt, zijn vaak rancuneus, angstig en gedeprimeerd. Wijze mensen, daarentegen, maken wel degelijk ook pijnlijke en stressvolle gebeurtenissen mee (zie hoofdstuk 7), maar in plaats van daarover te piekeren, zullen ze die gebeurtenissen eerder met gepaste objectiviteit evalueren om ervan te leren, ze zullen ze in perspectief plaatsen en uiteindelijk in hun leven integreren (bijv. Gluck, Bluck, Baron, & McAdams, 2005; Plews-Ogan, Owens, & May, 2013). Kortom, onderzoekers van wijsheid denken dat het terugdenken aan ons persoonlijke verleden een essentiële factor van wijsheid is. Desalniettemin,

hoewel leken intuïtief verband leggen tussen wijsheid en een op de toekomst gericht tijdsperspectief (denk aan culturele vingerwijzingen dat het verstandig is om toekomstplannen te maken, zoals wordt uitgedrukt in sprookjes en fabels van Aesopus), ontbreekt direct empirisch onderzoek naar de relatie tussen wijsheid en een op de toekomst gericht tijdsperspectief volkomen.

In hoofdstuk 3 en 4 wordt de discussie over het tijdsperspectief verder uitgebreid om toekomstgerichtheid mee te nemen. In hoofdstuk 3 wordt een nieuwe graadmeter voor een evenwichtig tijdsperspectief geïntroduceerd en in hoofdstuk 4 wordt de relatie toegelicht tussen een evenwichtig tijdsperspectief en geestelijke gezondheid en wijsheid gedurende een heel mensenleven. In hoofdstuk 3 wordt de ontwikkeling en initiële validatie van de Balanced Time Perspective Scale (BTPS) beschreven. In een steekproef van 238 jongvolwassenen met verschillende etnische achtergronden ( $M = 21,2$  jaar) kregen de deelnemers de uit 28 onderdelen bestaande BTPS voorgelegd, alsmede enkele graadmeters voor geluk, welbevinden en gevoel van eigenwaarde. Een principaalcomponentenanalyse (PCA) droeg twee theoretisch consistente en verschillende tijdsoriëntaties aan: een uit 14 onderdelen bestaande positief-verledensubscalaal (alfa = .88 en een uit 14 onderdelen bestaande positieve-toekomstsubscalaal (alfa = .92). Door de twee subschalen op basis van de mediaan te delen, ontstaat een model met vier categorieën. Mensen die op beide subschalen lager dan de mediaan scoorden, werden ingedeeld in de categorie 'tijdbeperkend'; zij die op het verleden hoger dan de mediaan scoorden, maar op de toekomst lager, werden ingedeeld in de categorie 'reminiscenten'; zij die op de toekomst hoger dan de mediaan scoorden, maar op het verleden lager, werden ingedeeld in de categorie 'futuristen', en zij die op beide subschalen hoger dan de mediaan scoorden, werden ingedeeld in de categorie 'tijdverruimend', oftewel een evenwichtig tijdsperspectief. Zoals voorspeld, was er een verband tussen een evenwichtig tijdsperspectief en hogere scores op de drie graadmeters voor subjectief welbevinden (SWB) en op de bijbehorende subschalen van de Zimbardo Time Perspective Inventory (ZTPI), hetgeen wees op convergente validiteit. Belangrijke mogelijke tekortkomingen wat de in hoofdstuk 3 beschreven resultaten betreft zijn onder meer het delen van de schalen op basis van de mediaan om categorieën te vormen (omdat dat zou betekenen dat de categorieën hoogst waarschijnlijk per steekproef anders ingedeeld zouden worden), een tekort aan volwassenen van middelbare leeftijd en oudere volwassenen, en het ontbreken van aanvullende graadmeters (bijv. persoonlijkheidstrekken) die van invloed zouden kunnen zijn op de resultaten. In hoofdstuk 4 worden deze en andere punten openhartig behandeld.

In hoofdstuk 4 wordt, voor zover wij weten, een van de eerste pogingen beschreven om direct verband te leggen tussen een evenwichtig tijdsperspectief en wijsheid. Dat is als zodanig een belangrijke eerste stap in het onderzoeken van de vraag of en hoe deze twee veelomvattende domeinen met elkaar in verband staan. In hoofdstuk 4 wordt voortgeborduurd op de in hoofdstuk 3 beschreven resultaten door het verband tussen een evenwichtig tijdsperspectief en welbevinden conceptueel te herhalen bij een grote ( $n = 512$ ) levensloop bestrijkende steekproef onder Nederlandse volwassenen  $M_{leeftijd} = 46,46$ ,  $SD = 21,37$ ), bestaande uit 186 mannelijke en 326 vrouwelijke deelnemers uit drie leeftijdsgroepen (jong, van middelbare leeftijd en ouder). De in hoofdstuk 3 geïntroduceerde groepsindeling is gebruikt en de resultaten van de twee onderzoeken vertoonden wat welbevinden betreft zeer veel overeenkomsten. Toen er een ruimere graadmeter werd gebruikt voor het meten van het psychologische, emotionele en sociale welbevinden (de Mental Health Continuum-Short Form; MHC-SF), bleek opnieuw uit de resultaten dat een evenwichtig tijdsperspectief (de categorie 'tijdverruimend') in vergelijking met zowel de categorie 'tijdbeperkend' en 'reminiscenten' hoger scoorde op geestelijke gezondheid. In lijn met de in hoofdstuk 3 beschreven bevindingen scoorde de categorie 'tijdverruimend' in absolute zin hoger dan de categorie 'futuristen' (respectievelijk  $M = 60,1$  versus  $M = 57,3$ ), maar dit had geen invloed op de statistische significantie. Gezien het feit dat Webster en Ma (2013) vaststelden dat de categorie 'tijdverruimend' wat de afhankelijke variabelen tevredenheid met het leven (SWLS) en geluk (OHQ) betreft statistisch hoger scoorde dan de categorie 'futuristen', concluderen we, op basis van de huidige resultaten, dat er wat geestelijke gezondheid betreft een klein maar wezenlijk verschil bestaat tussen de categorieën 'tijdverruimend' en 'futuristen'.

De bevindingen met betrekking tot de relatie tussen een evenwichtig tijdsperspectief en wijsheid bieden verdere ondersteuning van onze hypothese. Mensen in de categorie 'tijdverruimend' scoorden significant hoger dan alle drie de andere categorieën ('tijdbeperkend', 'reminiscenten' en 'futuristen'). Dat ondersteunt onze stellingname dat wijze mensen gebruikmaken van positieve ervaringen uit het verleden en ook anticiperen op positieve toekomstplannen en -activiteiten. Resultaten uit onze regressieanalyses, waarin wij de afwijking van optimale scores als onze graadmeter van BTP hebben gebruikt, wijzen er bovendien op dat deze resultaten hard genoeg zijn om evident te zijn, zelfs nadat rekening is gehouden met verschillende demografische, gezondheids- en persoonlijkheidsvariabelen.

In hoofdstuk 5, 6, en 7 wordt nader ingegaan op de niet-temporele antecedenten en consequenties van wijsheid. Erikson (1963) stelt dat de late adolescentie en vroege volwassenheid in het teken staan van de ontwikkeling van een ego-identiteit en dat een mogelijk kracht van de laatste psychosociale taak van ego-integriteit (in de late volwassenheid) wijsheid is. Als zodanig wordt wijsheid voorafgegaan door identiteit. Erikson stelde desalniettemin dat latere psychosociale crises hun oorsprong hebben in vroege en primitieve vormen van dergelijke krachten en al zichtbaar zijn voordat zij een bepalend aandachtspunt voor de persoon in ontwikkeling worden. Zo kan het aanvankelijke vertrouwen in de vroege jeugd een voorbode zijn van volledige intimiteit bij de jongvolwassenen; in beide ontwikkelingsfasen is het vertrouwen van nieuwe intimi van essentieel belang. In dat opzicht kan *identiteit* (wie word ik?) de kiem planten voor de wijsheid die tot uitdrukking komt in de *ego-integriteit* (wie ben ik geweest?).

In hoofdstuk 5 zijn leeftijdsverschillen op het gebied van wijsheid onderzocht, alsmede de relatie tussen wijsheid en geestelijke gezondheid. Op basis van dezelfde, in hoofdstuk 4 genoemde grote levensloopbestrijkende steekproef, bleek uit de resultaten dat de hoogste mate van wijsheid werd gemeten bij volwassenen van middelbare leeftijd ten opzichte van jongere en oudere volwassenen, die niet van elkaar verschilden. Een analyse van de individuele factoren van de SAWS wees op belangrijke leeftijdstrends, die gezamenlijk bijdragen aan ons inzicht in leeftijdsverschillen op het gebied van wijsheid en de mogelijke ontwikkeling daarvan. Zo scoren volwassenen van middelbare leeftijd hoger op openheid dan oudere volwassenen. Dat wijst erop dat volwassenen van middelbare leeftijd, evenals jongere mensen, uit zijn op nieuwe ervaringen (in plaats van veilige, comfortabele routines), bereid zijn afwijkende standpunten in te nemen, en sneller geneigd zijn mensen met andere achtergronden te accepteren. In lijn met de socio-emotionele selectiviteitstheorie (Carstensen, 2006) leggen oudere volwassenen (die een kortere FTP hebben) minder nadruk op naar buiten gerichte, informatiegeoriënteerde initiatieven (bijv. reizen, afwijkende partnerkeuze) en richten zij zich in plaats daarvan op emotionele doelen (bijv. het versterken van relaties met bekenden). Bij oudere volwassenen draagt dat blijkbaar bij aan een hogere mate van geluk, maar het verklaart mogelijk ook ten dele de lagere scores op het gebied van openheid in de SAWS. Deze stellingname wordt gesteund door Thomas en Kunzmann (2013), die onlangs hebben vastgesteld dat er een omgekeerde relatie bestaat tussen leeftijd en de mate waarin iemand ervoor open staat om na te denken over negatieve levensgebeurtenissen, met name echtelijke twisten.

Volwassenen van middelbare leeftijd scoren vergeleken met oudere volwassenen ook hoger op humor. Humor, zoals getoetst met de SAWS, gaat gepaard met een zekere zelfspot, oftewel jezelf niet te serieus nemen, een ironische houding ten aanzien van het leven en zijn onvoorspelbare tekortkomingen, het doen van moeite om humor te gebruiken ter verlichting van stressvolle ervaringen, en een altruïstisch voornemen om anderen een beter gevoel te geven door de juiste humor te gebruiken. Als zodanig is humor een belangrijke heuristiek voor zelfregulatie.

Emotionele regulatie is het hoogst bij volwassenen van middelbare leeftijd in vergelijking met zowel jongere als ouders deelnemers. Jongere volwassenen worden vaak voor het eerst geconfronteerd met nieuwe en uitdagende taken (om er een paar te noemen: relaties, identiteitsvorming, carrièrekeuzes, vrijetijdsbestedingen, gezondheidsgedrag) terwijl de cognitieve en emotionele vermogens nog steeds in ontwikkeling zijn. Bovendien leiden relatief onvolgroeide neurologische systemen (bijv. de frontale kwab) tot slechte gedragskeuzes, die vervolgens weer voor emotionele onrust zorgen. Oudere volwassenen hanteren hun emoties daarentegen blijkbaar op een gekleurde manier en geven daarbij blijk van een 'positiviteitseffect'. Wanneer oudere volwassenen worden geconfronteerd met onaangename gedachten en gevoelens, dan hebben zij de neiging hun focus te verleggen (bijv. zowel perceptie als aandacht) naar vrolijkere aspecten om toch een positieve emotionele toestand te bewaren. Volwassenen van middelbare leeftijd hebben dus wellicht de cognitief-emotionele volgroeidheid die jongeren ontberen, alsmede de motivatie en/of het cognitieve vermogen die ouderen ontberen, om zowel positieve als negatieve emoties op de juiste wijze te ervaren en te begrijpen.

Volwassenen van middelbare leeftijd en oudere volwassenen hebben ten slotte, zoals verwacht, gemiddeld genomen meer kritische levenservaringen dan jongere volwassenen. In dat opzicht is de chronologische leeftijd een indicatie voor cumulatieve levensgebeurtenissen die pijnlijk, stressveroorzakend en misschien zelfs traumatisch en levensbepalend zijn. Als mensen in staat zijn hun emotionele reacties te reguleren, humor als copingmechanisme aan te wenden, open te blijven staan voor nieuwe manieren om met uitdagende situaties in het leven om te gaan en gebruik te maken van een uitgebreide verzameling ondersteunende herinneringen, dan kunnen dergelijke levensgebeurtenissen een katalysator van wijsheid worden. In hoofdstuk 7 worden deze stellingen besproken in het kader van posttraumatische groei.

In hoofdstuk 6 hebben we de relatie onderzocht tussen identiteit, wijsheid en kritische levenservaringen. De deelnemers aan dit onderzoek (112 vrouwen en 47 mannen in de leeftijdsgroep van 17-38 jaar,  $M = 20,42$ ,  $SD = 3,62$ ) werd ook gevraagd een kort verhaal te schrijven over een zeer stressvolle periode in hun leven. Dat verhaal werd vervolgens gecodeerd op basis van het onderwerp (inzicht, afsluiting, contextuele complexiteit en intensiteit) die in verband werden gebracht met een wijze persoon. Correlationele analyses staafden de onderzoekshypothesen in die zin dat er een positieve correlatie werd vastgesteld tussen de volwassenere vormen van identiteitsstijlen (de informatiegeoriënteerde stijl) en wijsheid. Er werd bovendien een positieve correlatie vastgesteld tussen wijsheid en de verhalen over kritische levensgebeurtenissen. Wijzere mensen vertelden verhalen waarin zij hun eigen aandeel in de stressvolle gebeurtenis erkenden (inzicht) en waarin zij blijk gaven van inzicht in de vele contextuele variabelen (contextuele complexiteit) die mogelijk hadden bijgedragen aan het ontstaan en de oplossing van de kritische levensgebeurtenis. Wijze mensen waren beter in staat om deze factoren, alsmede de gedachten en gevoelens waarmee de ervaring gepaard ging, te integreren en verder te gaan met hun leven (afsluiting).

Er werd ook een positief verband gelegd tussen wijsheid enerzijds en attributionele complexiteit en empathie anderzijds. In lijn met de bevindingen op het gebied van kritische levensgebeurtenissen erkennen wijze mensen dat complexe menselijke gedragingen meestal meerdere determinanten hebben. Als zodanig draagt het vermogen om verschillende op elkaar inwerkende gebeurtenissen te zoeken en aan te wijzen, bij aan een beter begrip van de sociale dynamiek en omgangsvormen. Deze resultaten stroken met de opvatting dat wijze mensen goed ontwikkelde relativerende vaardigheden hebben (bijv. Ardel, 1997).

Bovendien scoorden wijze mensen hoger op empathie, die - nogmaals - een belangrijk uitvloeisel is van wijsheid. De in hoofdstuk 6 beschreven positieve correlatie tussen de SAWS en empathie werd onlangs opnieuw waargenomen in een Duitse steekproef waarin dezelfde beoordelingscriteria werden gebruikt (Gluck, et al, 2013). Cognitieve vaardigheden (zoals attributionele complexiteit) kunnen, in combinatie met het 'op de ander gerichte' aspect van het H.E.R.O.(E)-model van wijsheid, de empathie bevorderen. Wijze mensen worden, met andere woorden, gemotiveerd door de beweegredenen en intenties van anderen (theory of mind) en zijn in staat die te begrijpen. Omdat zij in staat zijn zichzelf te herkennen in de behoeften van anderen, zijn zij ook beter in staat empathie te voelen en te uiten.



Verschillende auteurs op het gebied van wijsheid zijn het eens met de stellingname dat wijsheid haar oorsprong vindt in moeilijke levenservaringen (bijv. Birren & Fisher, 1990; Etezadi & Pushkar, 2013; Gluck & Bluck, 2013; Karelitz, Jarvin, & Sternberg, 2010; Staudinger & Gluck, 2011; Webster, 2010). In hoofdstuk 7 wordt een van de eerste studies beschreven waarin het ogenschijnlijke verband tussen posttraumatische groei en wijsheid rechtstreeks wordt onderzocht. We hebben verschillende fasen onderzocht in de ontwikkeling van zeer stressvolle of traumatische levensgebeurtenissen naar psychologisch welbevinden. Elk van deze fasen is complex, en als zij elk afzonderlijk zouden worden gemeten, zouden er belangrijke aspecten verloren kunnen gaan. Daarom hebben we de fasen voorgesteld als latente variabelen waaraan twee of meer manifeste variabelen werden gekoppeld. De bivariate resultaten wezen op een significant positieve correlatie tussen wijsheid en beide indicaties voor posttraumatische groei (PTG), wat een voorlopige ondersteuning biedt voor een verband tussen PTG en wijsheid, dat in de literatuur over PTG wordt voorondersteld (bijv. Aldwin & Levenson, 2004; Joseph & Linley, 2005; Linley, 2003; Plews-Ogan, Owens, & May, 2013; Tedeschi & Calhoun, 2004).

Met behulp van structurele vergelijkingsmodellen hebben wij een positieve ontwikkeling waargenomen van trauma naar wereldbeeld. Zeer stressvolle gebeurtenissen dwingen mensen er vaak toe hun kernovertuigingen (over het zelf, anderen, en de wereld in het algemeen) te herwaarderden en na te gaan hoe belangrijk de gebeurtenis voor het zelf was, of nog steeds is. Wereldbeeldniveaus waren vervolgens een gunstige voorbode van zowel PTG als wijsheid. Wanneer iemands wereldbeeld aan diggelen valt (Janoff-Bulman, 1992), gaan mensen twifelen aan eerdere overtuigingen over zichzelf en over de wereld om hen heen. Ze moeten andere manieren vinden en afwegen om zichzelf te begrijpen, de dynamiek van relaties te begrijpen en toekomstplannen na te streven waarin zij geloven. Deze fundamentele pogingen tot zingeving dragen bij aan wijsheid. Ter afsluiting, en in lijn met de in hoofdstuk 5 beschreven bevindingen inzake wijsheid en geestelijke gezondheid, waren PTG en wijsheid beide een gunstige voorbode van psychologisch welbevinden (aangeduid met graadmeters van optimisme, ego-integriteit en eigenwaarde). Als traumatische gebeurtenissen met een wijze blik worden bekeken, kan het zijn dat mensen uiteindelijk een beter gevoel over zichzelf hebben, een nieuwe betekenis aan hun leven kunnen geven en de toekomst met meer optimisme tegemoet kunnen treden.

In hoofdstuk 8 zijn de algemene bevindingen van dit proefschrift besproken, inclusief zijn tekortkomingen en sterke punten. Onder de

eerstgenoemde categorie vielen punten die specifiek betrekking hadden op elk onderzoek (bijv. steekproefkenmerken, de transversale aard van de bevindingen en mogelijke psychometrische tekortkomingen van schalen waarmee het tijdsperspectief en wijsheid werden gemeten), alsmede enkele algemenere punten (bijv. het aanmerken van bepaalde variabelen als antecedenten in plaats van consequenties).

Ondanks deze tekortkomingen heeft dit proefschrift ook veel sterke punten. Ten eerste denken wij dat, in het licht van de volgende stelling van Gluck and Bluck (2013): "Er is slechts weinig theoretisch, en nog minder empirisch onderzoek direct gewijd aan de vraag hoe wijsheid zich gedurende een mensenleven zou kunnen ontwikkelen" (pag. 75), het in dit proefschrift ontwikkelde model (zie afbeelding 1 in hoofdstuk 8) een belangrijke heuristische conceptualisatie levert. Ten tweede introduceren wij een aantal vroege - zo niet eerste - studies naar kerndomeinen. Zo was het dankzij de constructie en voortdurende validatie van de BTPS voor het eerst mogelijk het verband tussen een evenwichtig tijdsperspectief en wijsheid (hoofdstuk 4) rechtstreeks te onderzoeken, en in hoofdstuk 6 en 7 wordt het eerste bewijsmateriaal geleverd voor het verband tussen de ontwikkeling van identiteit en posttraumatische groei enerzijds en wijsheid anderzijds. Hoofdstuk 8 wordt afgesloten met een aantal suggesties voor toekomstig onderzoek, zoals schaalverfijning, longitudinaal korte-termijnonderzoek naar omstandigheden in de kindertijd die een voorbode kunnen zijn van wijsheid (bijv. het ontstaan van een stevige hechting en de ontwikkeling van empathie), en onderzoek naar kwalitatieve aspecten van wijsheid door middel van verhalen en biografieën.

Wijsheid is een gewaardeerde eigenschap die mensen sinds mensenheugenis en in alle samenlevingen hebben nagestreefd. De psychologische wetenschap heeft dit complexe en dynamische proces pas onlangs onderzocht. Wijsheid heeft ontwikkelingstijd nodig om te groeien en te rijpen, en de weg naar wijsheid is een slingerweg die we blijven bewandelen. Wijsheid gaat ook gepaard met het zich eigen maken van persoonlijke tijdsperspectieven, alsmede de sterke drang om onszelf te begrijpen door over onszelf na te denken en de dwingende teleologische drang om naar onze toekomst te kijken. Dit proefschrift heeft, weliswaar in grote lijnen, een voorlopig ontwikkelingskader gedocumenteerd waarin het tijdsperspectief en andere essentiële, met wijsheid verbonden antecedente en consequente variabelen, zijn verankerd.



## SUMMARY IN ENGLISH

This thesis examined possible antecedent and consequent variables of wisdom development with an emphasis on time perspective. Chapter 1 first outlined the importance of time perspective, particularly reminiscence processes, for the development of wisdom. Next, a model of wisdom, the H.E.R.O.(E) model, was identified and its five components described. Finally, the studies constituting the chapters of the thesis were briefly introduced.

In Chapter 2 we presented a relatively comprehensive and critical review of the reminiscence and life review literature, highlighting the following features which have the most relevance to our model of wisdom, namely, a lifespan (developmental) perspective, individual differences, and connections to mental health. Chapter 2 reinforces earlier (e.g., Webster & Cappeliez, 1993; Webster & Young, 1988) calls for a lifespan perspective on reminiscence. Beginning in infancy and continuing until the end of life, the majority of persons remember their past at least occasionally. What starts initially as a social bonding experience in which parents structure and enable recall in their child, eventually transitions into a sophisticated, self-initiated ability to selectively retrieve episodic memories for particular purposes. As life experiences accrue and societal expectations change (e.g., career and relationship pressures), young and older adults recall their past to deal with more varied and specific issues such as remembering loved ones who have passed away (i.e., intimacy maintenance) and to remember prior successful coping strategies (i.e., problem-solving).

Chapter 2 reviewed several studies which consistently showed that overall, there are no age differences in the *total* amount of reminiscing (as measured by the RFS) but theoretically consistent age differences in *specific* functions (e.g., younger adults higher on problem-solving and identity; older adults higher on death preparation and teach/inform). These results are consistent with findings presented in Chapter 5 in which young and older adults did not differ in the total amount of wisdom, but did differ in specific dimensions (e.g., young lower in critical experiences; older lower in humour). These findings support our contention that a lifespan perspective is warranted in the study of both reminiscence and wisdom development.

A second parallel between reminiscence and wisdom is the notion of individual differences. Chapter 2 highlights several contextual and personality variables associated with different types and frequencies of reminiscence. Similarly, the emergence of wisdom over time is also correlated with specific traits or conditions (e.g., Randall & Kenyon, 2001; Mickler & Staudinger, 2008). For instance, Webster (2010) found that both attachment avoidance and attachment anxiety were negatively correlated with scores on the Self-Assessed Wisdom Scale (SAWS). Stated another way, this finding suggests that persons who start out life securely attached to primary caregivers have an enhanced probability of developing wisdom later on. Other individual difference variables, such as the personality trait of extraversion, predict aspects of both reminiscence and wisdom. Chapter 6 highlights the connection between wisdom and the individual difference variable of identity styles.

Finally, both reminiscence (Chapter 2) and wisdom (Chapters 5 and 7) have strong connections to mental health. One of the strongest reminiscence predictors of negative well-being is bitterness revival. Individuals who frequently recall episodes from their past in which they perceive themselves to have been unjustly treated, or unfairly limited by specific persons, situations, or life in general, are oftentimes resentful, anxious, and depressed. In contrast, although wise persons certainly do experience painful and stressful events (see Chapter 7), rather than ruminate about such occurrences they evaluate them with appropriate dispassion in an effort to learn from the experience, put it in perspective, and eventually weave it into their lifestory (e.g., Gluck, Bluck, Baron, & McAdams, 2005; Plews-Ogan, Owens, & May, 2013). In short, remembering our personal past is recognized by wisdom researchers as a key element of wisdom. In contrast, although an intuitive connection in lay persons between wisdom and a future time perspective exists (e.g., cultural prescriptions that planning for the future is wise manifested in fairy tales and Aesop's Fables) direct empirical investigation of the link between wisdom and a future time perspective is conspicuously lacking.

Chapters 3 and 4 extend the discussion of time perspective to include a future orientation. Chapter 3 introduces a new measure of balanced time perspective, and Chapter 4 illustrates the relationship of a balanced time perspective to mental health and wisdom across the lifespan. Chapter 3 describes the development and initial validation of the Balanced Time Perspective Scale (BTPS). Using a sample of 238 ethnically diverse young adults ( $M = 21.2$  years) participants were administered the 28-item BTPS as well as measures of happiness, well-being, and self-esteem. A principal components analysis (PCA) produced two

theoretically consistent and distinct temporal orientations: a 14-item positive past subscale ( $\alpha = .88$ ) and a 14-item positive future subscale ( $\alpha = .92$ ). Median splits on the two subscales produce a four-category model. Persons scoring below the median on both subscales were categorized as time restrictive; those higher than the median on the past but below the median on the future were categorized as reminiscers; those higher than the median on the future but lower than the median on the past were categorized as futurists; and those persons scoring higher than the median on both subscales were categorized as time expansive, representing a balanced time perspective. Consistent with predictions, a balanced time perspective was associated with higher scores on the three measures of subjective well-being (SWB), as well as the appropriate subscales of the Zimbardo Time Perspective Inventory (ZTPI) indicating convergent validity. Important possible limitations in Chapter 3 results include using a median split to create categories (because this would mean that assignment to categories would most likely differ from sample to sample), lack of middle-aged and older adults, and lack of additional measures (e.g., personality traits) which might influence the results. Chapter 4 directly addresses these and other issues.

Chapter 4 describes one of the first, to our knowledge, attempts to directly link a balanced time perspective to wisdom. As such, it represents an important initial step in investigating if and how these two broad areas are associated. Chapter 4 builds on the results of Chapter 3 by conceptually replicating the link between a balanced time perspective and well-being in a large ( $N = 512$ ) lifespan sample of Dutch adults ( $M_{age} = 46.46$ ,  $SD = 21.37$ ), including 186 male and 326 female participants representing three age groups (i.e., young, midlife, and older). Using the categorical scheme introduced in Chapter 3, the results of the two studies were highly similar with respect to well-being. Using a broader measure which assessed psychological, emotional, and social well-being (i.e., the Mental Health Continuum-Short Form; MHC-SF), results again showed that a balanced time perspective (i.e., the time expansive category) scored higher on mental health than either the time restrictive and reminiscers categories. Paralleling the findings from Chapter 3, the time expansive category was higher than the futurist category in absolute terms (i.e.,  $M = 60.1$  versus  $M = 57.3$ , respectively), but this did not attain statistical significance. Given that Webster and Ma (2013) found that the time expansive category was statistically higher than the futurist category for the dependent variables of satisfaction with life (SWLS) and happiness (OHQ), when coupled with the present results, we conclude that there is a small but real difference between the time expansive and futurist categories in mental health.

The findings for the balanced time perspective-wisdom link provide stronger support to our hypothesis. Persons in the time expansive category scored significantly higher than all three other categories (i.e., time restrictive, reminiscers, and futurists). This supports our conjecture that wise persons draw upon positive past experiences as well as anticipate positive future goals and activities. Moreover, results from our regression analyses using the deviation from optimal scores as our measure of BTP, suggest these results are strong enough to be evident even after several demographic, health, and personality variables are accounted for.

Chapters 5, 6, and 7 emphasize the non-temporal antecedents and consequents of wisdom. According to Erikson (1963), ego-identity development is the central task of late adolescence and emerging adults, while a possible strength of the last psychosocial task of ego-integrity (seen in late adulthood) is wisdom. As such, identity precedes wisdom. Nevertheless, Erikson argued that later emerging psychosocial crises have their roots in early life and primitive forms of such strengths can be seen before they become a dominant focus for the developing person. For instance, the initial trust of infancy may be a precursor to full-blown intimacy seen in young adulthood; in both stages of development, trust in new intimate partners is paramount. In this respect, *identity* (who am I becoming?) may well contain the seeds of wisdom expressed in *ego-integrity* (who have I been?).

Chapter 5 investigated age differences in wisdom, as well as the relationship of wisdom to mental health. Using the same large lifespan sample reported in Chapter 4, results indicated that midlife adults reported the highest level of wisdom relative to younger and older adults, who did not differ from each other. An analysis of the individual factors of the SAWS indicated important age trends, which collectively add to our understanding of age differences in wisdom and its possible development. For instance, midlife adults have higher levels of openness relative to older adults. This suggests that midlife adults, like younger persons, seek new experiences (rather than safe, comfortable routines), are willing to entertain discordant viewpoints, and have a greater willingness to tolerate others from diverse backgrounds. Consistent with socioemotional selectivity theory (Carstensen, 2006), older adults (who have a shorter FTP) de-emphasize external, informational pursuits (e.g., travel, novelty in partner selection) and focus instead on emotional goals (e.g., strengthening bonds with familiar others). While this apparently contributes to higher levels of happiness in older adults, it may partly account for the reduction of openness scores on the SAWS. In support of this contention, Thomas and Kunzmann (2013) recently

found an inverse relationship between age and openness to thinking about negative life events, specifically marital conflict.

Midlife adults also score higher on humour relative to older adults. Humour, as assessed via the SAWS includes a sense of appropriate levels of self-deprecation, or not taking oneself too seriously, an ironic stance on life and its unpredictable foibles, an effort to use humour to ease stressful experiences, as well as an altruistic intent to make others feel better through the use of appropriate humour. As such, humour is an important heuristic of self-regulation

Emotional regulation is highest in midlife adults relative to both younger and older participants. Younger adults are often confronting novel and challenging tasks for the first time (e.g., relationships, identity development, career choices, leisure pursuits, and health behaviours, to name a few) with cognitive and emotional capacities which are still developing. Moreover, relatively immature neurological systems (e.g. frontal lobe) contribute to poor behavioural choices which subsequently produce emotional turmoil. In contrast, older adults apparently manage their emotions in a biased fashion, exhibiting a "positivity effect". When faced with unpleasant thoughts and emotions, older adults tend to redirect their focus (e.g., both perception and attention) to happier aspects in an effort to maintain a positive emotional state. Midlife adults, therefore, may have the cognitive-emotional maturity lacking in young persons, as well as the motivation and/or cognitive capacity lacking in older persons, to appropriately experience and understand both positive and negative emotions

Finally, as expected, midlife and older adults have, on average, more critical life experiences than younger adults. In this respect, chronological age is an index of cumulative life events which are painful, stress-inducing, and perhaps even traumatic and life changing. If persons are able to regulate their emotional reactions, use humour as a coping mechanism, remain open to new ways of dealing with life's challenges, and draw upon an extensive pool of supportive memories, then such difficult life occurrences can become a catalyst for wisdom. Chapter 7 addresses such claims within the framework of posttraumatic growth.

Chapter 6 examined the relationship among identity, wisdom, and critical life experiences. Participants in this study (112 women and 47 men ranging in age from 17 - 38,  $M = 20.42$ ,  $SD = 3.62$ ) were also asked to provide a brief written narrative about a particularly stressful time in their life. This narrative was then coded for themes (i.e., insight, closure, contextual complexity, and intensity) which were predicted to be indicative of a wise person. Correlational analyses



supported study hypotheses in that the more mature forms of identity styles (i.e., the informational style) were positively correlated with wisdom. Moreover, wisdom was also positively correlated with the critical life event narratives. Wiser persons told stories in which they recognized the part they played in the stressful event (i.e., insight), as well as understanding the multiple contextual variables (i.e., contextual complexity) which may have contributed to the critical life event's initiation and resolution. Wise persons were more able to integrate these factors, as well as the thoughts and emotions which accompanied the experience and move forward with their lives (i.e., closure).

Wisdom was also positively associated with both attributional complexity and empathy. Consistent with the findings regarding critical life event themes, wise persons recognize that most complex human behaviour has multiple determinants. As such, an ability to search for and identify several interacting events contributes to enhanced understanding of social dynamics and interpersonal behaviour. These results are consistent with the notion that wise persons have well-developed perspective-taking skills (e.g., Ardel, 1997).

Moreover, wise persons scored higher in empathy, which again is considered a key consequence of wisdom. The positive correlation between the SAWS and empathy reported in Chapter 6 has recently been replicated in a German sample using the same assessment measures (Gluck, et al, 2013). Cognitive skills (such as attributional complexity) may combine with the "other-related" dimension of the H.E.R.O.(E) model of wisdom to facilitate empathy. In other words, wise persons are motivated by, and have the ability to, understand the motivations and intentions of another (theory of mind). Moreover, because they can see themselves in the wants and needs of other human beings, their capacity for and expression of empathy is increased.

Several authors within the wisdom field agree with the contention that wisdom is forged in the crucible of difficult life experiences (e.g., Birren & Fisher, 1990; Etezadi & Pushkar, 2013; Gluck & Bluck, 2013; Karelitz, Jarvin, & Sternberg, 2010; Staudinger & Gluck, 2011; Webster, 2010). Chapter 7 is one of the first studies to directly test the ostensible link between posttraumatic growth and wisdom. We investigated different steps in the pathways from highly stressful or traumatic life events to psychological well-being. Since each of these steps is complex, and single measures of each might miss important elements, we conceptualized the steps as latent variables indexed by two or more manifest variables. The bivariate results showed a significant positive correlation between

wisdom and both indices of posttraumatic growth (PTG) providing preliminary support for a PTG-wisdom link postulated in the PTG literature (e.g., Aldwin & Levenson, 2004; Joseph & Linley, 2005; Linley, 2003; Plews-Ogan, Owens, & May, 2013; Tedeschi & Calhoun, 2004).

Using structural equation modeling, we confirmed a positive path from trauma to worldview. Highly stressful events frequently require a reassessment of core beliefs (about the self, others, and the world in general) as well as evaluating how central to the self the event was, or continues to be. Levels of worldview then positively predicted both PTG and wisdom. When one's assumptive world (Janoff-Bulman, 1992) is shattered, persons question former beliefs about themselves and their world. They must identify and evaluate new ways of conceiving themselves, understanding relationship dynamics, and achieving valued future goals. These fundamental attempts at meaning making contribute to wisdom. Finally, and consistent with the wisdom and mental health findings reported in Chapter 5, both PTG and wisdom positively predicted psychological well-being (indexed by measures of optimism, ego-integrity, and self-esteem). When perceived through the lens of wisdom, traumatic events may eventually allow persons to feel better about themselves, find new meaning in life, and face the future with greater optimism.

Chapter 8 discussed the overall findings of the current thesis, including its limitations and strengths. Included in the former category were issues specific to each study (e.g., sample characteristics, cross-sectional nature of the findings, and possible psychometric limitations of scales used to assess time perspective and wisdom) as well as more generic concerns (e.g., categorizing certain variables as antecedent rather than consequent).

Despite these limitations, the current thesis also has several strengths. First, given that Gluck and Bluck (2013) state: "Little theoretical and even less empirical work has directly addressed how wisdom might develop over a lifetime" (p. 75), we feel the model developed in this thesis (see Chapter 8, Figure 1) provides an important heuristic conceptualization. Second, we introduce a number of early, if not first, explorations of key areas. For instance, the construction and continuing validation of the BTPS allowed for the first direct test of the association between a balanced time perspective and wisdom (Chapter 4), and Chapters 6 and 7 present some of the first evidence of the link between identity development and posttraumatic growth with wisdom, respectively. Chapter 8 ends with several suggestions for future research including scale refinement, short-term longitudinal

studies assessing childhood conditions which potentially enable precursors of wisdom (e.g., growth of strong attachments and empathy development), and investigation of qualitative features of wisdom via narratives and lifestories.

Wisdom is an esteemed quality which has been sought by persons throughout recorded history and across all societies. Psychological science has only recently investigated this complex and dynamic process. Wisdom requires developmental time to evolve and mature, and the path to wisdom is a serpentine one we continually travel. Wisdom also involves assimilating personal time perspectives, including the powerful urge to understand ourselves through autobiographical reflection as well as the compelling teleological pull to look to our future. This thesis has documented, albeit in broad strokes, a preliminary developmental framework incorporating time perspective and other fundamental antecedent and consequent variables associated with wisdom.

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