# Psychological Wisdom Research: Commonalities and Differences in a Growing Field

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## Abstract

Wisdom represents a fruitful topic for psychological investigations for at least two reasons. First, the study of wisdom emphasizes the search for the continued optimization and the further cultural evolution of the human condition. Second, it exemplifies the collaboration of cognitive, emotional, and motivational processes. The growth and scope of psychological wisdom research over the past few decades demonstrate that it is possible to investigate this complex construct with empirical rigor. Since the 1970s, five main areas have been established: lay definitions of wisdom, conceptualizing and measuring wisdom, understanding the development of wisdom, investigating the plasticity of wisdom, and applying psychological knowledge about wisdom in life contexts.

## Contents



## INTRODUCTION

The quest for wisdom is roughly as old as humankind. We are able to document this deep human concern for wisdom at least since writing made it possible to later retrieve very early examples of the wisdom literature dating back as far as the third century B.C. (e.g., Mesopotamia, Egypt). Similarly, an interest in and a concern for wisdom have accompanied the rise of modern psychology from its early days. G. Stanley Hall (1922), in his pioneering conceptual piece on senescence, was probably the first psychologist to mention the concept of wisdom. He associated the development of wisdom in a person with the emergence in later adulthood of a meditative attitude, philosophic calmness, impartiality, and the desire to draw moral lessons. In other words, in early psychological writings, wisdom was described as an ideal endpoint of human development. It was not until the 1970s that empirical wisdom research began (Clayton 1975).

In contrast to most other topics of psychological study, the notion of "wisdom" has such a rich ideational history and carries so many religious and philosophical associations that it almost seems to defy any attempt at empirical study (Staudinger & Baltes 1994, Staudinger & Glück 2010). Therefore, psychological work on wisdom is often based on an analysis of the historical as well as the contemporaneous philosophical wisdom literature (Assmann 1994, Brugman 2006, Curnow 1999).

Since the 1970s, five areas of psychological wisdom research have been established: (*a*) providing a lay definition of wisdom, (*b*) conceptualizing and measuring wisdom, (*c*) understanding the development of wisdom, (*d*) investigating the plasticity of wisdom, and (*e*) applying psychological knowledge about wisdom in life contexts.

Before we venture into these fields, however, we highlight some general issues to be considered when reviewing psychological wisdom research. First, we note that wisdom concerns a body of insights, heuristics, and skills that can manifest themselves in many different ways, only one of which is the wise person. Even though from a psychological perspective this seems to be the most obvious if not important focus, we argue that cultural crystallizations of wisdom as we find them in proverbs and other texts, such as religious writings or constitutional texts, are as relevant to the psychological study of wisdom as the investigation of personality characteristics of a potentially wise person or the investigation of behaviors indicative of wisdom. Second, we suggest that

use of the notion of "wisdom" or "wise" is confined to existential and uncertain matters of life, and someone or something is called wise only if the range of definitive criteria is fully instantiated. Although the word "wise" in everyday language is often used in a much more inflationary manner, the scientific usage ought to be precise. Therefore, third, an increase in competence that results from experience cannot immediately be equated with an increase in wisdom. In this vein, a distinction between two types of positive adult development has been suggested, namely, between an increase in adjustment and in growth (e.g., Staudinger & Kessler 2009, Staudinger & Kunzmann 2005). According to this distinction, a high level of adjustment, which without doubt is positive and functional, would not be sufficient to be labeled wisdom. Rather, the notion of wisdom should be reserved for phenomena that can be described as follows.

Wisdom concerns mastering the basic dialectics shaping human existence, such as the dialectic between good and bad, positivity and negativity, dependency and independence, certainty and doubt, control and lack of control, finiteness and eternity, strength and weakness, and selfishness and altruism. Mastery of such dialectics in the sense of wisdom does not mean that a decision for either one or the other side is taken but rather that both sides are essential for grasping human existence. Wisdom embraces these contradictions of life and draws insights from them. It further develops heuristics about when and under which circumstances to focus on which side of each of these opposites (Staudinger 1999b). In terms of psychological functioning, three facets need to be integrated: a cognitive, an emotional, and a motivational facet: (*a*) deep and broad insight into self, others, and the world; (*b*) complex emotion regulation (in the sense of tolerance of ambiguity), and (*c*) a motivational orientation that transcends self-interest and is invested in the well-being of others and the world (Staudinger & Kessler 2009). Mastering this kind of challenge clearly is not an obligatory but rather an optional task of human development (Schindler & Staudinger 2005).

## SUBJECTIVE THEORIES OF WISDOM

Ever since the beginnings of psychological wisdom research, the search for what "wisdom" actually is and how it can be defined has been an important, if not the most central, area of investigation. In particular, attention has been paid to folk conceptions about wisdom, that is, how ordinary people who are not familiar with psychological constructs perceive and define wisdom. The reasons why folk conceptions of wisdom have been investigated in more depth than is the case for other constructs, such as intelligence, may include its rich cultural history and its loftiness as an ideal state of being, as well as the fact that the criteria indicative of wisdom are by definition consensual (Staudinger 1996). Wisdom often becomes manifest in social situations, such as advice-giving and guidance (Montgomery et al. 2002). When it comes to issues of wisdom, there is no easily retrievable answer to the question of what is "right" or "wrong." However, based on the fundamental precondition that the well-being of the individual and that of the community need to be balanced (Sternberg 1998), a consensus can be reached within a community of practice as to what constitutes wise advice or even a wise person. In other words, wisdom follows a consensual rather than an objective criterion of truth (Habermas 1970). If so, then what people view as characteristic of wisdom is relevant also to theoretical models (Bluck & Glück 2005).

Most studies of subjective theories of wisdom have used descriptor-rating methods (Bluck & Glück 2005). Such studies (e.g., Clayton & Birren 1980, Glück & Bluck 2010, Glück et al. 2010, Holliday & Chandler 1986, Jason et al. 2001, Sternberg 1985) usually consist of two steps. First, participants generate lists of attributes they associate with wisdom. These lists are merged into a master list, removing idiosyncrasies and synonyms, and the master list is presented to another, larger sample of

participants who rate each term for its centrality to wisdom. Methods such as multidimensional scaling or factor analysis are used to extract underlying components from these ratings and to label them according to their most typical attributes.

Another approach to studying subjective theories of wisdom focuses on people's perceptions of actual instances of wisdom in themselves or others. For example, several studies investigated whom people view as wise and why. In some studies (e.g., Orwoll & Perlmutter 1990, Paulhus et al. 2002), participants named historical or famous persons they considered as wise. Other more qualitative research (e.g., Montgomery et al. 2002, Sowarka 1989) focused on why participants found a particular person from their own environment wise. Finally, in some studies, people were asked when in their life they had been wise themselves (Bluck & Glück 2004, Glück et al. 2005, Oser et al. 1999). According to studies by Oser and colleagues (1999), wise acts seem to be characterized by the following seven features: (*a*) they are paradoxical, unexpected; (*b*) they are morally integer; (*c*) they are selfless; (*d*) they overcome internal and external dictates; (*e*) they strive toward equilibrium; (*f*) they imply a risk; and (*g*) they strive toward improving the human condition. Most individuals considered as wise were in their second half of life, and typically they had guided others in difficult situations (Montgomery et al. 2002). The forms of wisdom that participants perceived in their own past varied with participants' current age (Glück et al. 2005).

## Core Components of Wisdom in Subjective Theories

Researchers have labeled the components identified in descriptor-rating studies differently, although the actual content is quite similar across studies. Bluck & Glück (2005) summarized the results from the available descriptor-rating studies by grouping the respective components into five consistent categories. The cognitive-ability component combines crystallized and fluid aspects of intelligence: Both an experience-based body of broad and deep life knowledge and the ability to reason well and think logically about novel problems are associated with wisdom, although the former aspect is viewed as more central. The second component, searching for insight, bridges cognition and motivation: Wise individuals are willing and able to understand complex issues deeply rather than superficially. If they are lacking sufficient information, they will search for that information rather than form a premature judgment. Third, a related, more motivational-emotional component is wise people's reflective attitude: Rather than making quick judgments or being guided by strong emotions, they prefer to think deeply about people, the world, and themselves. Their attitude of looking at all sides of an issue also implies a willingness to be critical of themselves, a balanced manner of regulating their own emotions rather than getting carried away by strong feelings, and an unobtrusive self-presentation. Fourth, wise people also tend to show high levels of concern for others: In addition to being cognitively able to see others' perspectives, they transcend their self-interests and care deeply for the well-being of others. Because this attitude goes beyond one's family and close friends, wise people often engage in civic activities for the benefit of others. These four components manifest themselves in concrete activity rather than only in theory: Wise individuals are assumed to have real-world problem-solving skills that enable them to apply their knowledge and judgment to concrete problems faced by themselves and others. Additional components of wisdom found in some studies include spirituality and connectedness to nature (Jason et al. 2001), the emancipatory nature of wisdom (Chandler & Holliday 1990), and humor (Webster 2003).

Notably, elements of these components, especially cognitive ability and concern for others, are already present in the wisdom conceptions of elementary-school children (Glück et al. 2010). Thus, the concept of wisdom seems to be culturally transmitted across generations

(cf. wise figures in fairy tales, fantasy stories, and games). And indeed it has been argued from a stance of evolutionary hermeneutics that wisdom has adaptive value for humankind (Csikszentmihalyi & Rathunde 1990).

## Wisdom and Age

Most people seem to believe that wise persons are usually old (Clayton & Birren 1980, Orwoll & Perlmutter 1990), and in fact, most persons whom laypeople nominate as wise are at least 60 years old (Baltes et al. 1995, Denney et al. 1995, Jason et al. 2001, Maercker et al. 1998, Orwoll & Perlmutter 1990). In experimental studies, laypeople usually rate older individuals as wiser (Knight & Parr 1999, Stange 2005; but see also Hira & Faulkender 1997). Wisdom was also one of only two positive characteristics that laypeople viewed both as positive and as specific to old age (Heckhausen et al. 1989). On the other hand, however, older age is viewed as neither necessary nor sufficient for wisdom: Most people are aware that not everyone develops wisdom with old age, and that young people can also be quite wise. The association of wisdom and age seems to be derived from the idea that experience with the ups and downs of human life, which is a central component of implicit theories of wisdom (e.g., Clayton & Birren 1980, Glück & Bluck 2010, Holliday & Chandler 1986, Sternberg 1985), indeed follows a cumulative age trajectory. However, as we discuss in the Ontogenesis of Wisdom section below, this does not seem to be the case (Staudinger et al. 1992, 1994).

## Individual Differences in Subjective Conceptions of Wisdom

The consistency with which components of wisdom are identified across studies does not mean that all people view these components as equally central to wisdom. In fact, an attribute rated unanimously as central to wisdom could not correlate with other attributes because of lacking variance. Thus, although the core components of wisdom show how the structure of this complex construct is represented in people's minds, people differ in the weights they assign to the different components. Individual differences in conceptions of wisdom are related to age, gender, experience, and expertise. For example, Sternberg (1985) found that university professors from different disciplines agreed only partly in their conceptions of wisdom. Art professors defined wisdom largely as a balance of logic and intuition, philosophy professors focused on deep and nonbiased thinking, and business professors emphasized awareness of limitations and on long-term perspectives. Thus, the hierarchy of wisdom descriptors most likely is based on people's specific experiences, including the specific kinds of complex problems they have faced and their best perceived solutions.

In a similar vein, age differences in autobiographical wisdom narratives have been found (Glück et al. 2005). Adolescents, people in their thirties, and people in their sixties differed in what they considered as instances of wisdom in their own lives, and indeed those differences reflected the developmental tasks and priorities of each age group. Also, conceptions of wisdom seem to become more differentiated with age. Older adults view affective aspects as more central to wisdom, distinguish fluid and crystallized aspects of the cognitive component, and associate wisdom less closely with old age than do younger age groups (Clayton & Birren 1980, Knight & Parr 1999).

Gender differences in conceptions of wisdom are relatively small. Men nominate more men for wisdom than do women (Denney et al. 1995, Glück et al. 2010, Jason et al. 2001, Orwoll & Perlmutter 1990, Sowarka 1989), but the characteristics that people associate with men's and women's wisdom do not seem to differ much, at least in descriptor-rating studies. Thus, wisdom may be a quality that is neither stereotypically male nor stereotypically female, and individuals viewed as truly wise may not fit with either stereotype (Aldwin 2009, Ardelt 2009). On the other hand, when people recall experiences of themselves as wise, men report more job-related events and women report more family- and illness-/death-related events,

and this effect is maintained when differences in employment status are controlled (Glück et al. 2009). It is not clear whether these gender differences only concern the areas in which men and women perceive their own wisdom or in which it is requested, or whether there are also gender differences in what men and women consider as manifestations of wisdom (Levenson 2009).

Rather than analyzing differences between predefined groups of people, ratings of wisdom-related attributes have also been cluster-analyzed (Glück & Bluck 2010). Such clustering revealed two predominant types of conceptualizing wisdom: Individuals with (*a*) a cognitive conception rated knowledge and experience, understanding complex issues, and (to a lesser degree) self-reflection and self-evaluation as most central to wisdom. Individuals with (*b*) an integrative conception also endorsed such characteristics but viewed tolerance, empathy, an orientation to the greater good, and love for humanity as about equally important. The relative frequency of the cognitive conception of wisdom decreased significantly across young adulthood, suggesting that the experiences of this life period may teach many people that the complexities of adult life require more than cognition (cf. Clayton & Birren 1980). Interestingly, this change is also reflected in the fact that younger adults perform worse than middle-aged adults when it comes to problems with a strong emotional component (Blanchard-Fields 1986).

## Cross-Cultural Studies

So far, we have focused on studies with Western samples. Thus, the question arises whether the idea of wisdom as an ideal endpoint of human development is universal across cultures and religious traditions—and if so, to what degree the actual components of wisdom and their relative importance differ across cultures. An analysis of virtues prevalent in Eastern and Western philosophical and religious writings identified wisdom as one of six core virtues (the other five of which are courage, justice, humanity, temperance, and transcendence; Dahlsgaard et al. 2005). Note, however, that there are languages, especially in nonindustrialized parts of the world, that do not even have a word for "wisdom" (Rösing 2005).

Even if the core idea of wisdom as an ideal endpoint of human development is largely universal, some of the more specific meanings of wisdom may differ across cultures, and they change with history. It seems likely that some features that people associate with wisdom are related to the values and ideals of a particular culture. For example, most Buddhists believe that higher levels of wisdom can be achieved by conscious effort, whereas most Christians do not (Rappersberger 2007). At the same time, some components seem to form the core of the concept of wisdom independent of cultural context. For example, it seems unlikely that unbalanced emotionality or self-centered values would be viewed as typical for wisdom in a culture, even if they may be viewed as positive qualities in a given societal context. In a philosophical analysis of Eastern and Western wisdom literatures, self-transcendence, that is, a perspective on others and the world that is not biased by a self-enhancing focus (e.g., Levenson et al. 2005; see also Orwoll & Perlmutter 1990), was identified as a largely universal feature of wisdom (Curnow 1999).

Most studies interested in cultural differences in people's conceptions of wisdom have compared the differences between "Eastern" and "Western" conceptions (e.g., Takahashi & Bordia 2000, Takahashi & Overton 2002, Yang 2001). American and Australian young adults, for example, rated the term "wise" as most similar to "experienced" and "knowledgeable," whereas Indian and Japanese groups associated "wise" most closely with "discreet," "aged," and "experienced" (Takahashi & Bordia 2000). Takahashi & Overton (2005) concluded from a review of such studies on cultural differences that two broad modes of wisdom can be distinguished: an analytic mode, prevalent in Western cultures, that emphasizes knowledge and cognitive complexity, and a synthetic "Eastern" mode that focuses on the

integration of cognition and affect. In contrast, Glück & Bluck (2010) found that both analytic and synthetic conceptions of wisdom are frequent among Western laypeople. Consequently, it seems important to not overemphasize differences between cultural groups without attending to within-group differences.

### Summary

To summarize, people in Western and Eastern societies have clear conceptions of what wisdom is or whom they would nominate as wise. Perhaps surprisingly, there is great consensus about the central components of such subjective conceptions of wisdom. Wisdom is conceived of as the perfect integration of mind and character for the greater good. Still, there is also meaningful interindividual variability in how the various components are weighted.

## EXPLICIT THEORIES OF WISDOM: CONCEPTUALIZATIONS AND MEASUREMENT

The second line of empirical psychological inquiry on wisdom addresses the question of how to conceptualize wisdom based on psychological theorizing and consequently how to empirically investigate expressions of wisdom. Researchers are usually quite aware that it is a courageous undertaking to try to study wisdom empirically. Wisdom is a complex and content-rich phenomenon, and many scholars have claimed that it defies attempts at scientific identification. However, research on explicit theories of wisdom has made remarkable progress at measuring wisdom in terms of personality characteristics, characteristics of adult thought, and performance on existential and uncertain life tasks. Some of these approaches are more strongly process-oriented (e.g., wisdom as a characteristic of adult thought), and others are more outcome-oriented (e.g., wisdom as a pattern of personality characteristics or as problem-solving behavior).

### The Distinction Between Personal and General Wisdom

We suggest that psychological wisdom research may profit from subsuming the different lines of work under two main headings, namely personal wisdom, on one hand, and general wisdom, on the other (Staudinger 1999b, Staudinger et al. 2005). This distinction is loosely related to the philosophical separation between the ontology of the first and the third person (Searle 1992). The ontology of the first person indicates insight into life based on personal experience. In contrast, the ontology of the third person refers to the view on life that is based on an observer's perspective. In loose analogy to Searle's first-person perspective, personal wisdom refers to individuals' insight into their selves, their own lives. Analogous to the third-person perspective, general wisdom is concerned with individuals' insights into life in general, from an observer's point of view, that is, when they are not personally concerned.

The distinction between personal and general wisdom might be helpful when trying to settle some of the ongoing debates in the field of wisdom research (e.g., Ardelt 2004). For heuristic purposes, **Table 1** assigns many of the extant approaches in research on wisdom to either a personal-wisdom or a general-wisdom perspective (after Staudinger et al. 2005). Note that this categorization is sometimes difficult to make because the original authors do not describe their conception of wisdom along the distinction between personal and general wisdom. Consequently, the assignment is based on inferences on our behalf and is based on the relative emphasis placed on either personal or general wisdom. Of course, as with any dichotomy, this distinction is made for heuristic purposes and is oversimplifying.

The two types of wisdom do not necessarily have to coincide in a person. A person can be wise with regard to the life and problems of other people and can be sought out for advice from others because of her wisdom, but the very same person does not necessarily have to be

**Table 1 Tentative assignment of conceptions of wisdom and closely related constructs to the distinction between personal and general wisdom**

| Authors | Approach to wisdom | Personal wisdom | General wisdom |
|---|---|---|---|
| **Self-report measures** | | | |
| Ardelt | Three components: cognitive, reflective, affective | X | |
| Erikson/Whitbourne | Ego integrity (as opposed to despair) | X | |
| Helson & Wink | High personal growth/low adjustment<br>Transcendent wisdom (as opposed to practical) | X | |
| Levenson et al. | Self-transcendence | X | |
| Ryff | Personal growth (dimension of psychological well-being) | X | |
| Webster | Five components: experience, emotion regulation, reminiscence/reflectiveness, openness, humor | X | |
| **Performance measures** | | | |
| Dörner & Staudinger | Self-concept maturity | X | |
| Loevinger | Ego development (integrated level) | X | |
| Labouvie-Vief | High affect complexity/low affect optimization | X | |
| Mickler & Staudinger | Realizing one's own potential while considering the well-being of others and society | X | |
| Berlin wisdom paradigm | Expertise in the fundamental pragmatics of life | | X |
| Neo-Piagetian perspectives | Postformal stage of cognitive development (e.g., reflective judgment, dialectical thinking) | | X |
| Sternberg | Application of tacit knowledge to maximize the common good by balancing interests | | X |



wise about her own life and her own problems. To test this contention, the two types of wisdom need to be conceptualized and measured independently of each other.

Different research traditions have led to a focus on one or the other type of wisdom. The approaches primarily geared toward personal wisdom are usually based in the tradition of personality research and personality development. In this perspective, wisdom describes the mature personality or an ideal endpoint of personality growth (e.g., Erikson 1959 or Ryff & Heincke 1983). When thinking about wisdom from this vantage point, there is also a close link to research on personality growth and learning from traumatic events (e.g., stress-related growth, Park et al. 1996; posttraumatic growth, Tedeschi & Calhoun 2004). The approaches primarily investigating general wisdom typically have a stronger connection with the historical wisdom literature (i.e., wisdom as sound advice or life insight independent of individuals) and an expertise approach (e.g., Berlin wisdom paradigm, Baltes & Staudinger 1993; Sternberg's balance theory of wisdom, Sternberg 1998).

## Approaches to the Study of General Wisdom

The Berlin wisdom paradigm defines wisdom as expertise in the fundamental pragmatics of life (e.g., Baltes & Staudinger 2000). The fundamental pragmatics of life refer to deep insight and sound judgment about the essence of the human condition and the ways and means of planning, managing, and understanding a good life. The term "expertise" implies that wisdom is a highly differentiated body of insights and skills usually acquired through experience and practice. Expertise in the fundamental pragmatics of life is described according to five criteria (two basic and three meta criteria). The first criterion, rich factual knowledge, concerns knowledge about such topics as human nature, lifespan development, variations in

developmental processes and outcomes, interpersonal relations, and social norms. The second criterion, rich procedural knowledge, involves strategies and heuristics for dealing with the meaning and conduct of life, for example, heuristics for giving advice or ways to handle life conflicts. The third criterion is lifespan contextualism, that is, to consider life problems in relation to the domains of life (e.g., education, family, work, friends, leisure, the public good of society, etc.) and their interrelations and to put these in a lifetime perspective (i.e., past, present, and future). Relativism of values and life priorities is the fourth criterion of wisdom. It means to acknowledge and tolerate interindividual differences in values while at the same time being geared toward optimizing and balancing the individual and the common good. The last criterion, the recognition and management of uncertainty, is based on the idea that human beings can never know everything that is necessary to determine the best decision in the present, to predict the future perfectly, or to be 100% sure about why things happened the way they did in the past. A wise person is aware of this uncertainty and has developed ways to manage it. Uncertainty as well as the dialectic between knowledge and doubt are features of wisdom that play an important role in ancient (e.g., Socrates: The only real wisdom is knowing you know nothing) as well as contemporaneous conceptions (e.g., Brugman 2006, Meacham 1990).

To elicit and measure general wisdom-related performance, participants are presented with difficult and existential life problems such as the following: "Imagine a good friend of yours calls you up and tells you that he/she can't go on anymore and has decided to commit suicide. What could one/you be thinking about, how could one/you deal with this situation?" Participants are then asked to "think aloud" about the problem. Their responses are recorded and later transcribed. To quantify performance quality, a select panel of judges, who are extensively trained and calibrated, evaluates the protocols of the respondents according to the five wisdom criteria using seven-point scales. The obtained scores are reliable and provide an approximation of the quantity and quality of wisdom-related knowledge and skills of a given person. Responses to such fictitious problems primarily tap knowledge and heuristics about life problems in general and therefore most likely are emotionally less challenging than solving existential and difficult personal life problems (see below the section on Personal Wisdom). Indication of the external validity of this paradigm was obtained from studying people who were nominated as wise according to nominators' subjective beliefs about wisdom. Wisdom nominees received higher wisdom scores than comparable control samples matched for age and professional background (Baltes et al. 1995).

Sternberg's balance theory conceptualizes wisdom as the application of tacit knowledge to life problems involving conflicts between different life domains or stakeholders (e.g., Sternberg 1998, 2000). Tacit knowledge, a core term in Sternberg's theory of practical intelligence, is procedural, domain-specific knowledge about how to reach a certain goal within a certain system. Concerning wise solutions to difficult problems, the goal is to achieve a common good; that is, to optimize the outcome across all interests involved. A wise solution is balanced as it takes conflicting intrapersonal, interpersonal, and extrapersonal interests into account, over the long and short terms, through the infusion of positive ethical values (Sternberg 2008, Sternberg et al. 2007). It is also balanced in how it deals with the problem context: by adapting to the context, by changing it, or by choosing a different context, depending on the nature of the problem and the circumstances. Based on his general method for assessing tacit knowledge, Sternberg (1998) has proposed a measurement approach for wisdom: Participants rate the quality of a number of possible solutions to vignettes of difficult life problems. Their ratings are compared against ratings from experts in the field.

Wisdom has also been conceptualized in the neo-Piagetian tradition of cognitive development (Labouvie-Vief 1990, Riegel 1975). Researchers in this tradition have proposed that

cognitive development is not completed when an adolescent has mastered formal-logical operations, as this level of cognition is not sufficient for dealing with the complexities of human experience. The main issue in postformal cognition is the realization that universal truths, as required for formal logic, can seldom be identified in the more complex problems that humans face. Such problems (e.g., interpersonal conflicts) are often characterized by the presence of multiple truths, incompatible goals, contradictions, and high levels of uncertainty. Thus, tolerance of ambiguity and willingness to compromise are more useful than strict formal-logical decision-making. Such ways of thinking are obviously characteristic of wisdom. Included in conceptions of postformal thinking are a focus on dialectical cognition (i.e., the integration of contradiction; Riegel 1975) and the integration of cognition and emotion (Labouvie-Vief 1990). Neo-Piagetian conceptions of wisdom were frequently studied in the early stages of psychological wisdom research (e.g., Arlin 1990, Kitchener & Brenner 1990, Kramer 1983, Labouvie-Vief 1990, Pascual-Leone 1990). Studies in this domain found that in comparison with nonpostformal thinkers, postformal thinkers are less susceptible to cognitive biases and show higher levels of moral development.

**Summary.** The approaches to the empirical study of general wisdom originated from cognitive research. By a focus on the dilemmas of life, which is the content area of wisdom, the classical notion of cognition gets expanded to include emotional and motivational aspects. The performance orientation "imported" from cognitive research, however, has been maintained and successfully applied to a phenomenon as complex as wisdom. Thereby the study of wisdom was very much enriched.

## Approaches to the Study of Personal Wisdom

Models of personal wisdom differ in whether they put special emphasis on difficult, negative events (e.g., Ardelt 2005, Kramer 2000), as is central in related conceptions such as posttraumatic or stress-related growth, but they agree in that learning from the socioemotional changes and challenges of an individual's personal life experience is necessary for making progress on the path toward personal wisdom. Thus, personal wisdom bears resemblance to the notions of "maturity" and "personal growth." Conceptions of personal wisdom can be found in clinical, personality, and developmental psychology.

Given space limitations, only a selection of conceptions can be discussed here: (*a*) approaches in the tradition of wisdom as a personality characteristic; (*b*) two relevant concepts that do not explicitly deal with wisdom but are closely related—Loevinger's concept of ego development (e.g., Loevinger & Wessler 1978) and Labouvie-Vief's dichotomy of affect complexity and affect optimization (e.g., Labouvie-Vief 2003); (*c*) an operationalization of personality growth that is based on the self-concept literature about maturity; and (*d*) a conception of personal wisdom that has been designed in analogy to the Berlin wisdom paradigm.

## Self-Report Measures of Personal Wisdom

Several theoretical models of personal wisdom have been translated into self-report measures. This seems to be an obvious methodological choice, provided personal wisdom is defined as a personality characteristic or an attitude or perspective on the self. Some critical issues in the use of self-report for measuring wisdom are discussed at the end of this section.

**Measures based on the Eriksonian tradition.** Some measures of wisdom are based on Erik Erikson's (1959) theory of identity development. Erikson conceptualized wisdom as an optimal endpoint of identity development attained through mastery of a number of crises encountered in an individual life course. In particular, he believed that resolution of the late-life crisis of integrity versus despair, that is, the full acceptance of

one's life as it has been rather than despair about the paths one did not take, is essential to wisdom and implies transcendence of self-focused priorities. Whitbourne and colleagues (e.g., Walaskay et al. 1983–84) have developed self-report scales measuring attainment of each of Erikson's developmental stages.

Carol Ryff also investigated Erikson's developmental stages early in her career (Ryff & Heincke 1983). She characterized wisdom as integration of all facets of the self, coordination of opposites, and transcendence of personal agendas in favor of collective or universal issues (Orwoll 1988). More recently, she has integrated her earlier work into a complex conceptualization of psychological well-being (PWB; Ryff & Keyes 1995, Ryff & Singer 2006). Ryff was an early advocate of the importance of eudaimonic aspects of well-being (Ryan & Deci 2001, Waterman 1993), that is, focusing on the attainment of well-being by realizing the potential of one's self through growth. She has developed a questionnaire measuring six distinct components of psychological well-being that includes a scale of personal growth and one of purpose in life. And indeed, Ryff's scales of personal growth and purpose in life have been found to be among the strongest correlates of personal and general wisdom-related performance (Glück & Baltes 2006, Mickler & Staudinger 2008, Staudinger et al. 1997).

Along these lines, Helson & Srivastava (2001) used two PWB dimensions, environmental mastery and personal growth, to index social and personal maturity, respectively. Building on work by Wink & Helson (1997; see also Helson & Wink 1987), which distinguished between practical and transcendent wisdom, they assumed that environmental mastery, or effectiveness in the outer world, and personal growth, or intrapsychic development, often preclude each other. In fact, they show very low correlations (see also Schmutte & Ryff 1997). Crossing these two dimensions leads to four personality types. In a longitudinal study, the two groups high on environmental mastery (conservers and achievers) increased in adjustment and life success. The two groups high on personal growth (achievers and seekers) were both expected to grow in personal wisdom, but only the seekers (low environmental mastery, high personal growth) were found to do so (Helson & Srivastava 2001). The latter finding again confirms the importance of differentiating between adjustment and growth (e.g., Staudinger & Kunzmann 2005).

**Ardelt's three-dimensional wisdom scale.** On the basis of both lay and expert theories of wisdom, Monika Ardelt (e.g., 2003, 2004) defines wisdom as a combination of personality characteristics with three broad components. The cognitive component is based on a constant desire to understand the truth about the human condition, especially about intra- and interpersonal matters, and includes the knowledge resulting from this desire. The reflective component refers to the ability to take multiple perspectives, which also implies self-examination and self-insight. The affective component is defined as "sympathetic and compassionate love for others," that is, a positive, empathetic attitude toward others. Following the classical traditions of personality assessment, Ardelt (2003) developed a self-report scale (three-dimensional wisdom scale; 3DWS) to measure the three dimensions of wisdom. The 3DWS shows significant and positive correlations with mastery, subjective well-being, purpose in life, and subjective health and negative relations with depressive symptoms, death avoidance, fear of death, and feelings of economic pressure. Education and occupation were both positively correlated with 3DWS scores (Ardelt 2003).

**Webster's self-report wisdom scale.** Jeffrey Webster (2003, 2007) has developed a self-report wisdom scale (SAWS) that measures five interrelated dimensions of wisdom, which need to operate together in a wise person in a holistic manner. He defines wisdom as "the competence in, intention to, and application of critical life experiences to facilitate the optimal development of self and others" (Webster 2007,

p. 164). The first dimension is experience, especially difficult and morally challenging experiences that deeply affect the individual. The second dimension, emotion regulation, refers to sensitivity to and the ability to deal with subtle as well as strong emotions. The third dimension, reminiscence and reflectiveness, implies that wise people reflect upon their life in order to make meaning, maintain their identity, identify strengths and weaknesses, and deal with difficulties. Openness, the fourth dimension, refers to wise people's interest in new possibilities, perspectives, and problem-solving approaches, which helps them to build up a large repertoire of skills. The final dimension, humor, is not often mentioned in psychological accounts of wisdom, but Webster argues that the ability to see comical aspects even in serious situations reflects a positive kind of detachment that may be quite typical for wisdom. SAWS shows positive correlations with measures of generativity and ego integrity; women score higher than men. Further, SAWS scores correlate negatively with attachment avoidance (but not attachment anxiety; Webster 2003).

**Levenson's work on wisdom as self-transcendence.** Levenson and colleagues (2005; see also Le & Levenson 2005) introduced a measure of wisdom as self-transcendence based on an account of wisdom by the philosopher Trevor Curnow (1999). Curnow identified four central features of wisdom in both European and Asian philosophy: self-knowledge, detachment, integration, and self-transcendence. Certainly, Curnow (1999) is not the only one to point to the importance of self-transcendence for wisdom (see also e.g., Kohut 1978, Labouvie-Vief 2003, Mickler & Staudinger 2008, Orwoll & Perlmutter 1990).

Levenson and colleagues (2005) argued that Curnow's four features can be conceptualized as developmental stages. Self-knowledge is awareness of what constitutes one's sense of self in the context of roles, relationships, and beliefs. Detachment refers to awareness of the transience of external aspects of one's sense of self. Integration means overcoming the separation among different "inner selves," that is, accepting and integrating all facets of one's self. Finally, self-transcendence refers to independence of the self of external definitions and dissolution of mental boundaries between self and others. The authors argue that "self-transcendence is equivalent to wisdom and implies the dissolution of (self-based) obstacles to empathy, understanding, and integrity" (Levenson et al. 2005, p. 129). They have developed the adult self-transcendence inventory (ASTI). Self-transcendence as measured by the first ASTI version is negatively related to neuroticism and positively related to openness to experience, conscientiousness, and agreeableness as well as to meditation practice.

**Summary.** With regard to their definitions of (personal) wisdom, the reviewed approaches show considerable overlap [except for the conception by Levenson et al. (2005), which takes a more specific approach] and are highly consistent with the findings from subjective theories of wisdom. The authors have proposed self-report measures of personal wisdom or constructs closely related to it. Although these measures are obviously highly practical and easy to administer, the high face validity of scale items may pose a problem for valid measurement. Self-report measures are always influenced both by intentional positive self-presentation and by inaccuracy of people's self-judgments. The latter, however, may pose a particularly serious problem when wisdom is being measured (see also Aldwin 2009): If wisdom entails self-reflection and self-criticism, favorable self-judgments in self-report scales may actually be negatively correlated with wisdom. A highly naïve person with high self-esteem may score much higher in a self-report scale than a wise person trying to evaluate him- or herself as accurately as possible against a high standard. In this respect, performance-based measures of personal wisdom may be at a unique advantage compared to self-report approaches.

## Performance Measures of Personal Wisdom

**Loevinger's ego levels.** It was Jane Loevinger's ambition to capture character development in a stage model similar to the Piagetian model of cognitive development (Loevinger & Wessler 1978). Loevinger conceived the stages of ego development as a successive progression toward psychological maturity, unfolding along the four dimensions of impulse control, interpersonal style, conscious preoccupations, and cognitive styles. The model comprises eight stages (impulsive, self-protective, conformist, self-aware, conscientious, individualistic, autonomous, and integrated) that are characterized by increasingly mature forms of those four dimensions. Most people are categorized to be in the third to fifth stage, that is, the conformist, self-aware, and conscientious stage. The self-aware stage is the modal stage in late adolescence and adult life. The eighth stage, the integrated stage, is rarely observed in random samples.

Loevinger's ego level (Loevinger & Wessler 1978) is measured by content coding of standardized self-descriptions. It has been found to be positively related with ego-resiliency, interpersonal integrity, and regulation of needs, or mastery of socioemotional tasks and impulse-control, as well as indicators of mental health (for reviews see Cohn & Westenberg 2004, Manners & Durkin 2000). Interestingly, ego level is also positively correlated with number of lifetime psychiatric visits and regular psychotherapeutic sessions. It is unclear whether psychotherapy helped subjects to advance developmentally or whether later-stage capacity to see ambiguities in life increased their willingness to seek psychotherapy (see Dörner 2006). The latter interpretation is in line with the positive quadratic relation between neuroticism and ego level (i.e., higher neuroticism at low and high ego levels) and a negative quadratic relation between conscientiousness and ego level (i.e., lower conscientiousness at low and high ego levels). Openness to experience, extraversion, and agreeableness show positive linear relations with ego level.

In sum, this pattern of results around Loevinger's measure of ego development suggests that central features of personal (but also general) wisdom, such as moving beyond the given, seeing reality more clearly, and transcending extant social norms, do not come without costs. It seems that being faced with the complexities of one's own life in the way that is true for a person at high levels of ego development does not necessarily lead to greater happiness, but instead may actually invoke more worries and self-criticism as well as the insight that further self-development is needed ("I know that I don't know").

**Labouvie-Vief's approach to personal wisdom.** Combining Piaget's cognitive theory with psychoanalytic notions and ideas from adult attachment theory, Gisela Labouvie-Vief proposed developmental models of self as well as emotional understanding (e.g., Labouvie-Vief 1982, Labouvie-Vief et al. 1989). Building on this earlier work, her most recent publications have focused on the development and/or maturation of self- and affect-regulation. In this most recent approach, she has developed a notion of growth or maturity that combines affect optimization, that is, the tendency to constrain affect to positive values, with affect complexity, that is, the amplification of affect in the search for differentiation and objectivity. In her notion of maturity, it is crucial that the search for complexity and differentiation is combined with, or rather constrained by, a search for optimizing positive affect in any given situation. At the same time, the search for positive affect is embedded in the ability to experience events and other persons in an open and differentiated fashion. Combining the two (dichotomized) dimensions of affect complexity and affect optimization results in four "personality" types.

Labouvie-Vief & Medler (2002) expected individuals with high levels on both dimensions to also function best in other aspects of psychological adjustment. And indeed, this group showed high ego levels, high fluid intelligence, and adaptive coping patterns, excluding repressive or regressive strategies. In contrast,

individuals high in affect optimization but low in affect complexity scored second highest on positive affect but were characterized by repressive coping styles and somewhat lower intellectual ability. Their counterpart group, those with high affect complexity but low affect optimization, shows a kind of mirror image: With the lowest scores on repression and high intelligence scores, they can be regarded as the most open and "realistic" group. Finally, individuals low on both dimensions demonstrate the lowest levels of functioning across different indicators. In sum, it seems that the "complex type" (high on affect complexity and rather low on affect optimization) comes closest to what we have called personal wisdom.

**Self-concept maturity of personal wisdom.** The measure of self-concept maturity is based on the self-concept literature (Dörner & Staudinger 2010). Five self-concept facets were identified as theoretically meaningful indicators of personal wisdom: complexity of the self-concept, self-concept integration, affect balance, self-esteem, and value orientation. It was hypothesized that only combining these five components reflects an appropriate operationalization of personal wisdom. That is, a profile of the five self-concept facets was established that should serve as a prototype of a mature personality as reflected in the notion of self-concept maturity (SCM). The first three components are measured using an adapted version of Linville's self-concept measure. This measure asks respondents first to nominate self-aspects and subsequently to describe themselves for each of the self-aspects using 20 positive and 20 negative adjectives. Self-esteem is measured using the Rosenberg self-esteem scale, and value orientation is measured with an abbreviated version of the Schwartz value orientation questionnaire (for details, see Dörner 2006).

As hypothesized, SCM correlated strongly and significantly with other measures of personal wisdom, especially with Loevinger's ego development and the newly developed personal-wisdom task presented below (Mickler & Staudinger 2008), whereas no significant associations existed with fluid as well as crystallized intelligence (Dörner & Staudinger 2010). This lack of a significant relationship with intelligence is most likely due to the absence of a problem-solving component in the measurement paradigm, in contrast to the other previously presented performance measures of personal wisdom.

**The Bremen measure of personal wisdom.** Another performance measure of personal wisdom starts out from the Berlin general wisdom paradigm but adapts it to index personality growth (Mickler & Staudinger 2008). One reason for this close alignment was to keep method variance as low as possible when establishing the relationship between general and personal wisdom. The measure is also based on one of the core assumptions of developmental psychology that it is the dialectic between assimilation and accommodation that promotes growth (cf. Piaget). In other words, our expectations need to continuously be challenged by new experiences, and we need to emancipate ourselves in thinking and feeling and transcend the structures within which we have been socialized (e.g., Chandler & Holliday 1990).

Five criteria (two basic and three meta), which have been defined to index personal wisdom, are based on the literature about personality development and growth. The first basic criterion is rich self-knowledge, that is, deep insight into oneself. A self-wise person should be aware of his or her own competencies, emotions, and goals and should have a sense of meaning in life. The second basic criterion requires a self-wise person to have available heuristics for growth and self-regulation (e.g., how to express and regulate emotions or how to develop and maintain deep social relations). Humor is an example of an important heuristic that helps to cope with various difficult and challenging situations. Interrelating the self, the first meta criterion, refers to the ability to reflect on and have insight in the possible causes of one's behavior and/or feelings. Such causes can be age-related or situational or linked to personal characteristics. Interrelating

the self also implies that there is an awareness about one's own dependency on others. The second meta criterion is called self-relativism. People high in self-relativism are able to evaluate themselves as well as others with a distanced view. They critically appraise their own behavior but at the same time display a basic acceptance of themselves. They also show tolerance for others' values and lifestyles—as long as they are not damaging to self or others. Finally, the third meta criterion is tolerance of ambiguity, which involves the ability to recognize and manage the uncertainties in one's own life and development. It is reflected in the awareness that life is full of uncontrollable and unpredictable events, including death and illness. At the same time, tolerance for ambiguity includes the availability of strategies to manage this uncertainty through openness to experience, basic trust, and the development of flexible solutions. Analogous to the Berlin general wisdom paradigm, personal wisdom is measured by a thinking-aloud procedure while solving a difficult and existential personal life problem and subsequent rating of the response transcripts (see Mickler & Staudinger 2008 for details).

In a first study, the new performance measure of personal wisdom showed good convergent validity (Mickler & Staudinger 2008). It was positively correlated with other measures of personality growth, such as Ryff's personal growth and purpose in life and Loevinger's ego development, as well as with benevolent personal values and psychological mindedness (California Psychological Inventory; Gough 1964), a concept measuring interest in the thoughts and feelings of other people. With regard to discriminant validity, personal wisdom showed substantial overlap with measures of general wisdom but also significant unique variance. As was to be expected for a measure of personal maturity rather than adjustment, it was uncorrelated with indicators of subjective well-being, such as life satisfaction, negative or positive emotions, and adaptive motives such as power, achievement, and hedonism. Also, personal wisdom is not preempted by knowing a person's intelligence. Interestingly, while controlling for age, the relationship between personal wisdom and fluid intelligence followed an inverted U-shape, implying that among highly intelligent persons, there is a significant negative correlation of fluid intelligence with personal wisdom. Follow-up analyses suggested that this may be due to differences values, in particular, the value domain of "universalism." Extremely intelligent people may tend to be rather egotistical and focused on achievement as opposed to interpersonal or social issues. Concerning personality variables, openness to experience was the most important predictor—the other Big Five variables were uncorrelated with personal wisdom.

**Summary.** Given the methodological problems involved with self-report measures of personal wisdom, it is encouraging that a number of performance measures are available that demonstrate satisfactory reliability as well as reassuring overlap in their covariance structures.

## ONTOGENESIS OF WISDOM

The distinction between personal and general wisdom is also relevant when exploring the ontogenesis of wisdom. First, there is reason to assume that indeed the dynamic between personal and general life insight is at the heart of eventually attaining wisdom. Decades of research on self-regulation as well as research on the therapeutic process have demonstrated that it is much more difficult to obtain insight into one's own life (let alone apply it) than into the difficulties and problems of others (e.g., Greenwald & Pratkanis 1984). Thus, general wisdom may be less difficult to attain than personal wisdom (first empirical evidence for this claim has been ascertained: Mickler & Staudinger 2008); therefore, progress in general wisdom may precede that in personal wisdom. We know, however, from research on the development of the self-concept that infants appropriate general knowledge about the world before they are aware of the self. From research on the self later in ontogeny, we have learned that self-related information is

processed differently than general information. Under certain conditions, we do have better memory for self-related information. However, threatening or inconsistent self-related information is often suppressed or modified, which may hinder the development of personal wisdom. Most likely, in the course of ontogeny, both types may alternate in taking the lead. Generally, the development of wisdom is a dynamic process in which cognitive, affective, and motivational resources develop interactively through the reflection of experience.

Conceptually, a model has been postulated that requires a set of factors and processes to "cooperate" for general as well as personal wisdom to develop (e.g., Staudinger et al. 2005). First, there are personality characteristics such as crystallized and fluid intelligence (as necessary but not sufficient conditions), creativity, openness to new experience, social competence, emotion-regulation competence (exploiting the dialectics of positive and negative emotions), an ethical value orientation, as well as an intermediate level of self-esteem and agency that provide the necessary basis for challenging oneself and the world around.

Second, the model presumes that the development of wisdom is advanced by certain expertise-specific factors, such as a strong motivation to learn about life (general wisdom) or oneself (personal wisdom), practice with difficult (personal and/or general) life situations, and guidance by a mentor. Third, the model assumes the operation of macrolevel facilitative experiential contexts. For example, certain professions and historical periods are more conducive to the development of wisdom than others, and age also facilitates as well as constrains the range of experiences.

These three sets of factors influence not only which kinds of experiences one makes but also how experiences are subsequently analyzed to form insights. Social-cognitive processes of life reflection (i.e., life planning, life management, and life review; Staudinger 2001) are assumed to be critical for the development of wisdom-related knowledge and judgment. If these processes are applied to autobiographical experiences, they contribute primarily to the formation of personal wisdom (cf. Erikson's model of personality growth), and if they are applied to general knowledge and experiences with life in general, they primarily contribute to the formation of general wisdom. Based on the assumptions of this model, age is not necessarily related to higher levels of wisdom-related performance, as many other variables need to come together for progress to occur.

In a similar vein, Glück & Bluck (2007, Glück 2010) have proposed the MORE wisdom model, a model of the development of wisdom through life experience. The acronym MORE is derived from mastery, openness, reflection, and empathy/emotion regulation. A sense of mastery means that wise individuals are aware—probably more than are others—of the uncontrollability of much of human life, but they do not react with helplessness because they know, from previous experience, that they will be able to cope with whatever happens to them. Openness to experience, as mentioned above, is a general curiosity and interest in new perspectives and experiences. A reflective attitude, also a key factor in virtually all conceptions of personal wisdom, emphasizes the motivation to think deeply and take different perspectives on experiences, including one's own role in them. Empathy and emotion regulation imply that wise persons perceive, care for, and are able to regulate others' and their own feelings.

Turning to empirical evidence on the development of (personal or general) wisdom, we mostly have cross-sectional data and evidence on general wisdom, as measured according to the Berlin wisdom paradigm, available to date. Within this limitation, the empirical work on the ontogenesis of wisdom has produced outcomes consistent with expectations. Contrary to work on the fluid mechanics of cognitive aging, older adults perform as well as younger adults (>25 years; overview in Staudinger 1999a). It seems that wisdom-related knowledge emerges between the ages of 14 and 25 years (Pasupathi et al. 2001). This holds true when controlling for intelligence during that period. But as expected, growing

older is not enough to become wiser. Rather, we found that older adults performed better on typical dilemmas of old age, and young adults performed better on typical dilemmas of young adulthood (Staudinger et al. 1992). However, when age has been combined with wisdom-related experiential contexts, such as professional training and experience in matters of life (e.g., clinical psychology), higher levels of performance were observed (Smith et al. 1994, Staudinger et al. 1992).

In line with the historical wisdom literature, which portrays wisdom as the ideal combination of mind and virtue, it was found that wisdom-related performance is best predicted by measures located at the interface of cognition and personality, such as a judicial cognitive style (i.e., "seeking to understand why and what it means that people think what they think, say what they say, and do what they do"; Sternberg 1990, p. 154), creativity, and moral reasoning (Staudinger et al. 1997). Neither fluid and crystallized intelligence nor personality (Big Five) independently of each other made a significant contribution to wisdom-related knowledge and judgment. Interestingly, a very different predictive pattern is found when wisdom-related performance in adolescence is considered, where cognitive development seems to be a crucial basis for the emergence of wisdom-related knowledge (Staudinger & Pasupathi 2003). Wisdom-related performance is also substantially correlated to moral reasoning (assessed in the Kohlbergian tradition), a relationship that is mediated by personality characteristics and intelligence (Pasupathi & Staudinger 2001). Consistent with a threshold model, high levels of wisdom-related performance are unlikely among those with low scores in moral reasoning.

General wisdom as measured according to the Berlin wisdom paradigm is unrelated or only weakly related to subjective well-being (Kunzmann & Baltes 2003). Wise individuals reported experiencing both positive (e.g., happy, cheerful) and negative affect (e.g., angry, afraid) less frequently than other individuals, but they reported a higher degree of affective involvement (e.g., being interested, inspired) than the rest of the sample. This pattern suggests that wisdom might go along with a more realistic, less self-enhancing, and less positively biased view on life, but at the same time with better emotion-regulating skills. Also, individuals with higher wisdom-related scores tended to endorse values referring to personal growth, life insight, societal engagement, the well-being of friends, and ecological protection more than other individuals did.

When comparing these findings on general wisdom with first evidence ascertained on correlates of personal wisdom, similarities and differences emerge. Neither general nor personal wisdom have a linear positive relationship to age. For example, a recent study presented evidence from a 34-year longitudinal study on personal wisdom in an Eriksonian sense (Sneed & Whitbourne 2003). With considerable interindividual differences, integrity scores increased in young adulthood, dropped somewhat around age 40, and then began to increase again. Many aging adults may focus on stabilizing previous self-perceptions in order to maintain well-being rather than engaging in deep life reflection (Mickler & Staudinger 2008, Sneed & Whitbourne 2003). Research with the Bremen measure of personal wisdom found that age is not only unrelated (as is the case for general wisdom) to personal wisdom, but it is even negatively related for the three meta criteria, that is, self-relativism, interrelating the self, and tolerance of ambiguity (Mickler & Staudinger 2008). Declining cognitive resources may make abstract thinking, which is required more to satisfy the meta- than the basic wisdom criteria, more difficult for older adults. Also, younger adults' higher levels of openness to experience may be an added advantage when it comes to testing established self-related insights against new evidence, which is a prerequisite to further developing self insight. Further, self-criticism is less crucial for general wisdom-related performance than for personal wisdom. Similarly, personal growth is generally negatively related to age (Ryff & Keyes 1995), and ego development peaks in early midlife and declines

thereafter (Cohn & Westenberg 2004). When interpreting such findings, contemporaneous societal restrictions of growth opportunities in old age need to be taken into account (e.g., Ryff & Singer 2006, Staudinger & Kessler 2009). In addition, it has been suggested that the developmental task of old age, that is, coming to terms with one's own life as lived (Erikson 1959), may prejudice older adults' life reflection toward a positive evaluation (Kennedy et al. 2004).

Second, personal wisdom shows a significantly smaller relationship than does general wisdom with indicators of subjective well-being. It is not enough to master the tasks of everyday life and thereby increase subjective well-being in order to gain in personal wisdom. Again, this finding underscores the importance of distinguishing between different types of positive development during adulthood and into old age (Staudinger & Kessler 2009). Sincere self-reflection and self-criticism as well as facing negative emotional states, all of which are necessary steps on the road to personal wisdom, obviously are not prone to increase subjective well-being in the sense of hedonic well-being as captured by measures of life satisfaction or positive and negative affect. These processes, however, are prone to increase eudaimonic well-being as captured by measures of personal wisdom (Waterman 1993).

Third, personal life events did not contribute to the prediction of general wisdom-related performance, but they played an important role when predicting personal wisdom scores (Mickler & Staudinger 2008). This is in line with the finding that traumatic life experiences can be conducive to the development of (personal) wisdom (e.g., Baltes et al. 1995), a notion prominent in concepts such as posttraumatic growth (e.g., Calhoun & Tedeschi 2006), stress-related growth (Aldwin & Levenson 2001, Park et al. 1996), or growth through adversity (e.g., Joseph & Linley 2006). After negative experiences such as accidents, life-threatening illness, or the death of a close other person, many people report self-perceived increases in aspects of personal growth such as compassion, affect regulation, self-understanding, honesty and reliability, spirituality, and self-reported wisdom itself (cf. Park 2004). While such self-perceptions of growth may be delusional (Maercker & Zoellner 2004), it seems plausible that personal wisdom is fostered by the experience of fundamental changes that "force" individuals to grow (Nolen-Hoeksema & Larson 1999) by challenging them to reorganize—but not completely destroy—their assumptions about life and priorities.

## PLASTICITY OF WISDOM

Be it general or personal wisdom, in previous studies of wisdom-related performance, the average levels observed in unselected samples were rather low, leaving a lot of space for improvement. And indeed, empirical studies have found support for the positive plasticity of wisdom-related performance. In two intervention studies, Staudinger and coworkers found that by either providing for a certain type of social performance context, that is, discussing the difficult life problem with a real or imaginary confidant (Staudinger & Baltes 1996), or by teaching a certain knowledge search strategy (Böhmig-Krumhaar et al. 2002), general wisdom-related performance was significantly increased. Thus, interventions that help to activate individuals' actual wisdom-related reserves can enhance wisdom-related performance. However, activation of abstract conceptions about wisdom (by means of the instruction to "try to give a wise response") does not lead to increases in performance (Glück & Baltes 2006).

Similarly, a first intervention study using the Bremen measure of personal wisdom was successful, but also once more proved different from general wisdom. In contrast to the findings for general wisdom (Staudinger & Baltes 1996), personal wisdom was not facilitated by the opportunity to exchange ideas with a familiar person before responding to a personal-wisdom task. Rather, it was found that instruction about how to infer insight from personal experiences (cf. life review; Staudinger

2001) significantly increased personal wisdom scores (cf. Staudinger et al. 2006). The authors interpreted this finding such that in the case of personal wisdom, the exchange with a well-known other person may be less helpful, as relationships tend to develop in ways that partners get along well without touching upon sensitive issues. Thus, for personal wisdom to be facilitated, it seems more useful to seek support from someone unknown and trained to support the life-reflection process, such as a psychotherapist.

In sum, experimental studies yielded the first encouraging evidence that both general and personal wisdom can be facilitated. Consequently, we may ask how such wisdom-conducive conditions can be implemented in everyday life.

## FIELDS OF APPLICATIONS FOR WISDOM

### Teaching Wisdom

An obvious application of the growing psychological knowledge about the antecedents of wisdom as well as facilitating and hampering conditions would be to develop effective methods to teach wisdom, be it in children or in adults. Some such approaches have been or are currently being developed based on psychological research; other approaches come from ancient religious and spiritual traditions. A broad spectrum of conceptions of teaching for wisdom is presented in Ferrari & Potworowski (2008); approaches focusing on school contexts are suggested by Sternberg and colleagues (2009).

It has been argued that whether wisdom is viewed as teachable and which teaching methods are considered the most promising seem to depend on how one defines wisdom (Ferrari 2008; see Curnow 2008 for a historical overview of the different meanings of teaching wisdom). We are not so sure whether this statement persists once we look more closely into the specific goals and actual mechanisms of transformation. For instance, certain religious practices, such as meditation (e.g., Rosch 2008), may be interpreted to foster transcendence of self-centered patterns of perception, emotion regulation, and motivation as well as judgment (Singer & Ricard 2008). In turn, this kind of transcendence can be linked to components of wisdom and training interventions derived from the Berlin paradigm or Sternberg's balance theory that at first sight seem juxtaposed to spiritual approaches to wisdom.

For example, Sternberg (2004, Sternberg et al. 2009) has proposed to foster the development of wisdom by teaching certain skills and ways of thinking, which can be viewed as predecessors or components of wisdom, as part of educational curricula. Such a wisdom curriculum would include, for example, reading classical wisdom literature, practicing dialectical thinking, and encouraging students to reflect and discuss their own values (Sternberg 2001a, Sternberg et al. 2009). In this vein, the ontogenetic model of wisdom, introduced above, can help to identify crucial antecedents of wisdom that may be fostered very early in life. For example, empathy (Eisenberg 2008) and mindfulness (Langer 1989) may be candidate constructs that can be fostered in childhood. A family climate that models values of acceptance, respect, and nonselfishness and later encourages discussion of moral perspectives and value differences could be another ingredient. Mindfulness training in kindergarten and elementary school may help children to concentrate and to learn to perceive oneself, others, and the world around.

As discussed above, the acquisition of personal wisdom presents a still bigger challenge. The personal-wisdom intervention study described above (Staudinger et al. 2006), for example, supported the assumption that certain ways to reflect upon our experiences (i.e., life reflection) as well as a knowledgeable counterpart to support this reflection process may be one way to proceed—both are central elements of most psychotherapeutical approaches. The importance and facilitative effect of a "wisdom mentor" can be found in almost all approaches to wisdom, be they ancient or contemporaneous, religious or scientific. In fact, many people remember episodes in which someone

(a therapist, a grandparent, a close friend, or maybe just a stranger) told them something that they considered wise because it transformed their perspective on a problem or situation fundamentally. Such "small transformations," achieved just by words, are often long remembered and may be the instances where wisdom most often shows in the real world (Montgomery et al. 2002). Thus, as the social nature of wisdom suggests, much "training" in wisdom can be obtained by observing, interacting with, and getting advice from a wise mentor (Glück & Bluck 2010). Research has also shown, however, that in the case of personal wisdom, the mentor should not be too closely involved with the mentee. Otherwise, established relational patterns compromise an impartial view.

## Leadership

When researchers ask people to name famous wise individuals, a number of the typical nominees can be referred to as leaders, e.g., Mahatma Gandhi, Jesus Christ, Martin Luther King, and Nelson Mandela (Paulhus et al. 2002). All of these individuals have inspired large numbers of people to follow them and their vision and have been successful in changing the world in fundamental ways. It is not surprising, therefore, that connections between leadership and wisdom have been made by a number of researchers.

Leadership is a somewhat vague term that, similar to wisdom, has been associated with a large number of positive qualities rather than clearly differentiated from other constructs. Sternberg (2003) emphasizes the distinction between leadership and management: Management refers to problem-solving and goal creation within the framework of a given organization, whereas leadership involves visionary qualities aimed at development of individuals and the organization, based on a broad and future-oriented perspective. There is a growing literature on wisdom in leadership and management (see, e.g., Kilburg 2006; Rooney & McKenna 2007; Sternberg 2003, 2007). Sternberg (2003, 2007) has developed a psychological model that defines leadership as a synthesis of creativity, intelligence, and wisdom. Specifically, he derives from his balance theory of wisdom (Sternberg 1998) that wise leadership makes use of creativity, successful intelligence, and expertise in the respective field to (*a*) seek a common good, (*b*) balance different interests, and (*c*) deal with environments appropriately (i.e., by adapting to, shaping, or selecting them). Due to his/her cognitive complexity, reflection, and self-criticism, a wise leader will not show cognitive fallacies such as prioritizing short-term over long-term perspectives or overestimating one's own knowledge or power. In this vein, wise leaders will effectively draw upon the strengths of others in their team and not only rely on themselves.

We tend to believe that although wisdom may be a highly desirable quality for those individuals who steer the fates of our modern society and economy, there are some systematic reasons (e.g., strong interests such as the search for power or the optimization of profit) why wisdom, in the strict sense that we have suggested in this article, may be a rare quality of those who are successful enough to reach and maintain leadership positions. Thus, wisdom may only partly, or under specific conditions, be necessary and effective for good leadership.

Early leadership theories assumed that certain general traits make some people prone to be leaders (for a modern trait perspective on leadership, see Zaccaro 2007, Zaccaro et al. 2004). Specifically, intelligence, adjustment, extraversion, conscientiousness, openness to experience, dominance, and self-efficacy are frequently named as relevant traits (Foti & Hauenstein 2007, Judge et al. 2002, Lord et al. 1986). This list shows some overlap but also notable differences from typical correlates of wisdom (e.g., Staudinger et al. 1997). Intelligence and openness to experience are important parts of both constructs. However, wisdom is related to intermediate rather than high levels of extraversion, whereas conscientiousness clearly is important for life success (i.e., leadership) but not as important for transcending

given circumstances (i.e., wisdom). Dominance does not often go well with self-criticism and unobtrusiveness, and high levels of self-efficacy may be an indicator of internal control illusions (such as Sternberg's omnipotence fallacy) rather than seeing through illusions (Dörner 2006, McKee & Barber 1999). Other important facets of wisdom such as emotional complexity, balance, self-transcendence, and benevolent values are typical of some but certainly not all successful leaders.

In contrast to trait theories, situational-contingency models of leadership (e.g., Fiedler 1965/2006, Vroom & Jago 2007) assume that the efficiency of a leadership style depends on the demands of the situation, for instance, on features of the organizational context. In relating such approaches to wisdom, one may argue that some contexts are more conducive to wise leadership than others. For example, there is evidence that wise leadership is possible only in organizational cultures that value supportiveness und team orientation as opposed to aggressiveness or decisiveness (Limas & Hansson 2004). Thus, although some qualities of wisdom such as metacognition and self-reflection (Kilburg 2006) or values emphasizing the common good (Sternberg 2003, 2007) may seem highly desirable in leaders, they may not be the best predictors of success in the economy or in politics. Thus, in the face of economic crises, it may be more useful to devise structural demands that counteract cognitive fallacies rather than hope for individual wise leaders to solve the problem.

A situational contingency model would also suggest, however, that a truly wise leader knows which leadership style to use with whom and in what situation. For example, Malan & Kriger (1998) have argued that the key to managerial wisdom is perceptiveness to and tolerance of variability—for example, variability between organizational levels, over time, between people, between relationships, and in the construction of meaning in the work context (see also Limas & Hansson 2004). As mentioned above, it seems likely that these traits are more consistent with some contexts than with others. In particular, the larger goals of an organization can be more or less compatible with wisdom. The wise public leaders named above all represent movements that changed societies at large (i.e., transcended given circumstances) toward a greater common good. An organization or a civic movement may, however, also follow self-centered (e.g., profit-maximizing) or malevolent (e.g., racist) goals. Such goals are obviously incompatible with wise leadership even if the organizational structure allows them.

## CONCLUSIONS AND FUTURE RESEARCH

In recent years, a notable increase of psychological work on the topic of wisdom has been observed, a development that may be related to a general interest in features of a positive psychology as well as an ever-increasing uncertainty of individuals about how to lead their lives in postmodern and destructuralized times. The growth and scope of research over the previous few decades demonstrate that wisdom represents a fruitful topic for psychological investigations, for at least two reasons. First, the study of wisdom emphasizes the search for continued optimization and the further cultural evolution of the human condition; second, it allows for the study of the collaboration between cognitive, emotional, and motivational processes.

We expect that future research on wisdom will be expanded in several ways.

1. The further identification of social and personality factors and life processes relevant for the ontogeny of wisdom. Why do some individuals develop further on the road to wisdom in the course of their life while most of us do not? Is it possible to distinguish societies according to how much they facilitate the development of wisdom? Wisdom theorists agree that the development of wisdom is a complex interaction of intraindividual, interindividual, and external factors that dynamically interact over the course of an individual life (e.g., Baltes & Staudinger 2000,

Brugman 2006, Kramer 2000, Sternberg 1998). To date, however, only very few longitudinal data are available that help to trace these interactions and possibly identify different types of developmental trajectories leading toward wisdom (e.g., Helson & Roberts 1994). These investigations into the ontogenesis of wisdom will also help to clarify the developmental dynamics between personal and general wisdom. To further our insight into the development of wisdom, it will also be important to apply recent neuropsychological work on social-cognitive processes.

2. The further exploration of wisdom beyond the person. As mentioned at the beginning of this review, wisdom does not necessarily need to be viewed as a characteristic of individuals, but may also be seen as a characteristic of problem solutions in a very general sense. While psychological wisdom research has had a tendency to focus on wise individuals, creativity researchers distinguished four ways of looking at their subject early on (Rhodes 1961): person, product, process, and press (i.e., the environmental demands). Wisdom research would likely profit from studying the wisdom of "products" such as political or legal decisions and the "processes" of dealing wisely with life problems or environmental factors such as effects of social-contextual conditions, in addition to personal characteristics on wisdom.
3. More specific work on contemporary cultural similarities and differences. Cross-cultural comparisons need to be carried out with an open mind toward any outcome and with the use of a variety of measurement paradigms. The application of stereotypical conceptions of Eastern and Western wisdom will not help to further our understanding of the phenomenon in the long run. It seems important that researchers in this area move beyond the investigation of cultural differences in subjective theories of wisdom and begin to study actual expressions of wisdom in different cultural contexts.
4. The differentiation between personal and general wisdom and their ontogenetic dynamics. The controversy among wisdom researchers about the definition of wisdom will probably never be resolved unequivocally. The question may not be which model is "right," but rather how much can be learned about wisdom by integrating the findings from different conceptualizations and operationalizations of wisdom, as well as what can be learned for designing the best interventions that are apt to facilitate wisdom.

All of these approaches may contribute to building a psychological art of living based on life insight and life composition by integrating the analytic, aesthetic, and moral aspects of human life (Staudinger 1999b) and to improving societal ways of fostering wisdom and of dealing with difficult problems of today's world in a wise way (e.g., Sternberg et al. 2009).

## DISCLOSURE STATEMENT

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## LITERATURE CITED

Aldwin C. 2009. Gender and wisdom: a brief overview. *Res. Hum. Dev.* 6:1–8

Aldwin CM, Levenson MR. 2001. Stress, coping, and health at mid-life: a developmental perspective. In *The Handbook of Midlife Development*, ed. EM Lachman, pp. 188–214. New York: Wiley

Ardelt M. 2003. Development and empirical assessment of a three-dimensional wisdom scale. *Res. Aging* 25:275–324

Ardelt M. 2004. Wisdom as expert knowledge system: a critical review of a contemporary operationalization of an ancient concept. *Hum. Dev.* 47:257–85

Ardelt M. 2005. How wise people cope with crises and obstacles in life. *ReVision* 28:7–19

Ardelt M. 2009. How similar are wise men and women? A comparison across two age cohorts. *Res. Hum. Dev.* 6:9–26

Arlin PK. 1990. Wisdom: the art of problem finding. See Sternberg 1990, pp. 230–43

Assmann A. 1994. Wholesome knowledge: concepts of wisdom in a historical and cross-cultural perspective. In *Life-Span Development and Behavior*, ed. DL Featherman, RM Lerner, M Perlmutter, pp. 187–224. Hillsdale, NJ: Erlbaum

Baltes PB, Staudinger UM. 1993. The search for a psychology of wisdom. *Curr. Dir. Psychol. Sci.* 2:75–80

Baltes PB, Staudinger UM, Maercker A, Smith J. 1995. People nominated as wise: a comparative study of wisdom-related knowledge. *Psychol. Aging* 10:155–66

Baltes PB, Staudinger UM. 2000. Wisdom: a metaheuristic to orchestrate mind and virtue towards excellence. *Am. Psychol.* 55:122–36

Blanchard-Fields F. 1986. Reasoning on social dilemmas varying in emotional saliency: an adult developmental perspective. *Psychol. Aging* 1:325–33

Bluck S, Glück J. 2004. Making things better and learning a lesson: experiencing wisdom across the lifespan. *J. Personal.* 72:543–72

Bluck S, Glück J. 2005. From the inside out: people's implicit theories of wisdom. In *A Handbook of Wisdom: Psychological Perspectives*, ed. RJ Sternberg, J Jordan, pp. 84–109. New York: Cambridge Univ. Press

Böhmig-Krumhaar S, Staudinger UM, Baltes PB. 2002. Mehr Toleranz tut Not: Läßt sich wert-relativierendes Denken und Urteilen verbessern? (In need of more tolerance: Is it possible to facilitate value relativism?). *Zeitschrift für Entwicklungspsychol. und Pädagogische Psychol.* 34:30–43

Brugman G. 2006. Wisdom and aging. In *Handbook of the Psychology of Aging*, ed. JE Birren, KW Schaie, RP Abeles, pp. 445–76. San Diego, CA: Academic

Calhoun LG, Tedeschi RG. 2006. *Handbook of Posttraumatic Growth: Research and Practice*. Mahwah, NJ: Erlbaum

Chandler MJ, Holliday S. 1990. Wisdom in a postapocalyptic age. See Sternberg 1990, pp. 121–41

Clayton VP. 1975. Erikson's theory of human development as it applies to the aged: wisdom as contradictory cognition. *Hum. Dev.* 18:119–28

Clayton VP, Birren JE. 1980. The development of wisdom across the life span: a reexamination of an ancient topic. In *Life-Span Development and Behavior*, ed. PB Baltes, JOG Brim, pp. 103–35. New York: Academic

Cohn LD, Westenberg PM. 2004. Intelligence and maturity: meta-analytic evidence for the incremental and discriminant validity of Leovinger's measure of ego development. *J. Personal. Soc. Psychol.* 86:760–82

Csikszentmihalyi M, Rathunde K. 1990. The psychology of wisdom: an evolutionary interpretation. See Sternberg 1990, pp. 25–51

Curnow T. 1999. *Wisdom, Intuition and Ethics*. Aldershot, UK: Ashgate

Curnow T. 2008. Introduction. Sophia's world: episodes from the history of wisdom. See Ferrari & Potworowski 2008, pp. 1–22

Dahlsgaard K, Peterson C, Seligman MEP. 2005. Shared virtue: the convergence of valued human strengths across culture and history. *Rev. Gen. Psychol.* 9:203–13

Denney NW, Dew J, Kroupa S. 1995. Perceptions of wisdom: What is wisdom and who has it? *J. Adult Dev.* 2:37–47

Dörner J. 2006. *A Self-Concept Measure of Personality Growth*. Bremen, Germany: Jacobs Univ.

Dörner J, Staudinger UM. 2010. *Self-Concept Maturity—A New Measure of Personality Growth: Validation, Age Effects, and First Processual Explorations*. Bremen, Germany: Jacobs Univ.

Eisenberg N. 2008. Empathy. In *International Encyclopedia of the Social Sciences*, ed. WA Darity, pp. 289–94. New York: Macmillan Ref.

Erikson EH. 1959. *Identity and the Life Cycle*. New York: Int. Univ. Press

Ferrari M. 2008. Developing expert and transformative wisdom: Can either be taught in pubic schools? See Ferrari & Potworowski 2008, pp. 207–23

Ferrari M, Potworowski G, eds. 2008. *Teaching for Wisdom: Cross-Cultural Perspectives on Fostering Wisdom*. Heidelberg: Springer

Fiedler FE. 1965, 2006. The contingency model: a theory of leadership effectiveness. In *Small Groups*, ed. JM Levine, RL Moreland, pp. 369–81. New York: Psychol. Press

Foti RJ, Hauenstein NM. 2007. Pattern and variable approaches in leadership emergence and effectiveness. *J. Appl. Psychol.* 92:347–55

Glück J, ed. 2010. "There is no bitterness when she looks back": wisdom as a developmental opposite of embitterment? In *Embitterment: From Biology to Society*, ed. M Linden, A Maercker. Vienna: Springer Verlag. In press

Glück J, Baltes PB. 2006. Using the concept of wisdom to enhance the expression of wisdom knowledge: not the philosopher's dream but differential effects of developmental preparedness. *Psychol. Aging* 21:679–90

Glück J, Bischof B, Siebenhüner L. 2010. "Knows what is good and bad," "Can teach you things," "Does lots of crosswords": children's knowledge about wisdom. *Eur. J. Dev. Psychol.* In press

Glück J, Bluck S. 2010. Laypeople's conceptions of wisdom and its development: cognitive and integrative views. *Manuscr. under review*

Glück J, Bluck S. 2007. Looking back across the lifespan: a life story account of the reminiscence bump. *Mem. Cognit.* 35:1928–39

Glück J, Bluck S, Baron S, McAdams DP. 2005. The wisdom of experience: autobiographical narrative across adulthood. *Int. J. Behav. Dev.* 29:197–208

Glück J, Strasser I, Bluck S. 2009. Gender differences in implicit theories of wisdom. *Res. Hum. Dev.* 6:27–44

Gough HG. 1964. *The California Psychological Inventory*. Palo Alto, CA: Consult. Psychol. Press

Greenwald AG, Pratkanis AR, eds. 1984. *The Self*. Hillsdale, NJ: Erlbaum

Habermas J. 1970. *Knowledge and Human Interests*. Boston, MA: Beacon

Hall GS. 1922. *Senescence: The Last Half of Life*. New York: Appleton

Heckhausen J, Dixon RA, Baltes PB. 1989. Gains and losses in development throughout adulthood as perceived by different adult age groups. *Dev. Psychol.* 25:109–21

Helson R, Roberts BW. 1994. Ego development and personality change in adulthood. *J. Personal. Soc. Psychol.* 66:911–20

Helson R, Srivastava S. 2001. Three paths of adult development: conservers, seekers, and achievers. *J. Personal. Soc. Psychol.* 80:995–1010

Helson R, Wink P. 1987. Two conceptions of maturity examined in the findings of a longitudinal study. *J. Personal. Soc. Psychol.* 53:531–41

Hira FJ, Faulkender PJ. 1997. Perceiving wisdom: Do age and gender play a part? *Int. J. Aging Hum. Dev.* 44:85–101

Holliday SG, Chandler MJ. 1986. Wisdom: explorations in adult competence. In *Contributions to Human Development*, ed. JA Meacham, pp. 1–96. Basel, Switzerland: Karger

Jason LA, Reichler A, King C, Madsen D, Camacho J, Marchese W. 2001. The measurement of wisdom: a preliminary effort. *J. Commun. Psychol.* 29:585–98

Joseph S, Linley PA. 2006. Growth following adversity: theoretical perspectives and implications for clinical practice. *Clin. Psychol. Rev.* 26:1041–53

Judge TA, Bono JE, Ilies R, Gerhardt MW. 2002. Personality and leadership: a qualitative and quantitative review. *J. Appl. Psychol.* 87:765–80

Kennedy Q, Mather M, Carstensen LL. 2004. The role of motivation in the age-related positivity effect in autobiographical memory. *Psychol. Sci.* 15:208–14

Kilburg R. 2006. *Executive Wisdom: Coaching and the Emergence of Virtuous Leaders*. Washington, DC: Am. Psychol. Assoc.

Kitchener KS, Brenner HG. 1990. Wisdom and reflective judgement: knowing in the face of uncertainty. See Sternberg 1990, pp. 212–29

Knight A, Parr W. 1999. Age as a factor in judgements of wisdom and creativity. *N. Z. J. Psychol.* 28:37–47

Kohut H. 1978. Forms and transformations of narcissism. In *The Search for the Self*, ed. P Ornstein, pp. 434–65. New York: Int. Univ. Press

Kramer DA. 1983. Postformal operations? A need for further conceptualization. *Hum. Dev.* 26:91–105

Kramer DA. 2000. Wisdom as a classical source of human strength: conceptualization and empirical scrutiny. *J. Soc. Clin. Psychol.* 19:83–101
Kunzmann U, Baltes PB. 2003. Wisdom-related knowledge: affective, motivational, and interpersonal correlates. *Personal. Soc. Psychol. Bull.* 29:1104–19
Labouvie-Vief G. 1982. Dynamic development and mature autonomy: a theoretical prologue. *Hum. Dev.* 25:161–91
Labouvie-Vief G. 1990. Wisdom as integrated thought: historical and developmental perspectives. See Sternberg 1990, pp. 52–83
Labouvie-Vief G. 2003. Dynamic integration: affect, cognition, and the self in adulthood. *Curr. Dir. Psychol. Sci.* 12:201–6
Labouvie-Vief G, Hakim-Larson J. 1989. Developmental shifts in adult thought. In *Midlife Myths*, ed. S Hunter, M Sundel, pp. 69–96. Newbury Park, CA: Sage
Labouvie-Vief G, Medler M. 2002. Affect optimization and affect complexity as adaptive strategies. *Psychol. Aging* 17:571–87
Langer EJ. 1989. *Mindfulness*. Reading, MA: Addison-Wesley
Le T, Levenson MR. 2005. Wisdom: What's love (and culture) got to do with it? *J. Res. Personal.* 39:443–57
Levenson MR. 2009. Gender and wisdom: the roles of compassion and moral development. *Res. Hum. Dev.* 6:45–59
Levenson MR, Jennings PA, Aldwin CM, Shiraishi RW. 2005. Self-transcendence: conceptualization and measurement. *Int. J. Aging Hum. Dev.* 60:127–43
Limas MJ, Hansson RO. 2004. Organizational wisdom. *Int. J. Aging Hum. Dev.* 59:65–103
Loevinger J, Wessler R. 1978. *Measuring Ego Development I: Construction and Use of a Sentence Completion Task*. San Francisco, CA: Jossey-Bass
Lord RG, DeVader CL, Alliger GM. 1986. A meta-analysis of the relation between personality traits and leadership perception: an application of validity generalization procedures. *J. Appl. Psychol.* 71:402–10
Maercker A, Böhmig-Krumhaar S, Staudinger UM. 1998. Existentielle Konfrontation als Zugang zu weisheitsbezogenem Wissen und Urteilen: Eine Untersuchung von Weisheitsnominierten. *Zeitschrift für Entwicklungspsychol. und Pädagogische Psychol.* 30:2–12
Maercker A, Zoellner T. 2004. The Janus face of self-perceived growth: toward a two-component model of posttraumatic growth. *Psychol. Inq.* 14:41–48
Malan LC, Kriger MP. 1998. Making sense of managerial wisdom. *J. Manage. Inq.* 7:242–51
Manners J, Durkin K. 2000. Processes involved in adult ego development: a conceptual framework. *Dev. Rev.* 20:475–513
McKee P, Barber C. 1999. On defining wisdom. *Int. J. Hum. Dev.* 49:149–64
Meacham JA. 1990. The loss of wisdom. See Sternberg 1990, pp. 181–211
Mickler C, Staudinger UM. 2008. Personal wisdom: validation and age-related differences of a performance measure. *Psychol. Aging* 23:787–99
Montgomery A, Barber C, McKee P. 2002. A phenomenological study of wisdom in later life. *Int. J. Aging Hum. Dev.* 52:139–57
Nolen-Hoeksema S, Larson J. 1999. *Coping with Loss*. Mahwah, NJ: Erlbaum
Orwoll L. 1988. *Wisdom in Late Adulthood: Personality and Life History Correlates*. Unpubl. doctoral dissert., Boston Univ.
Orwoll L, Perlmutter M. 1990. The study of wise persons: integrating a personality perspective. See Sternberg 1990, pp. 160–77
Oser FK, Schenker C, Spychiger M. 1999. Wisdom: an action-oriented approach. In *Psychological Studies on Spiritual and Religious Development*, ed. KH Reich, FK Oser, WG Scarlett, pp. 85–109. Lengerich: Pabst
Park CL. 2004. The notion of growth following stressful life experiences: problems and prospects. *Psychol. Inq.* 15:69–76
Park CL, Cohen L, Murch R. 1996. Assessment and prediction of stress-related growth. *J. Personal.* 64:71–105
Pascual-Leone J. 1990. An essay on wisdom: toward organismic processes that make it possible. See Sternberg 1990, pp. 224–78
Pasupathi M, Staudinger UM. 2001. Do advanced moral reasoners also show wisdom? Linking moral reasoning and wisdom-related knowledge and judgment. *Int. J. Behav. Dev.* 25:401–15

Pasupathi M, Staudinger UM, Baltes PB. 2001. Seeds of wisdom: adolescents' knowledge and judgment about difficult life problems. *Dev. Psychol.* 37:351–61

Paulhus DL, Wehr P, Harms PD, Strasser DI. 2002. Use of exemplar surveys to reveal implicit types of intelligence. *Personal. Soc. Psychol. Bull.* 28:1051–62

Rappersberger S. 2007. Weisheit im Buddhismus und im Christentum—Eine Interviewstudie zu impliziten Weisheitstheorien [Buddhist and Christian views on wisdom: an interview study of implicit wisdom theories]. Unpubl. master thesis, Univ. Klagenfurt, Austria

Rhodes M. 1961. An analysis of creativity. *Phi Delta Kappan* 42:305–10

Riegel KF. 1975. The developmental of dialectical operations. *Hum. Dev.* 18:1–3

Rooney D, McKenna B. 2007. Wisdom in organizations: whence and whither. *Soc. Epistemol.* 21:113–38

Rosch E. 2008. Beginner's mind: paths to the wisdom that is not learned. See Ferrari & Potworowski 2008, pp. 43–62

Rösing I. 2005. *Weisheit: Meterware, Maßschneiderung, Missbrauch* [*Wisdom: yard ware, customized ware, abuse*]. Kröning: Asanger Verlag

Ryan RM, Deci EL. 2001. On happiness and human potentials: a review of research on hedonic and eudaimonic well-being. *Annu. Rev. Psychol.* 52:141–66

Ryff CD, Heincke SG. 1983. Subjective organization of personality in adulthood and aging. *J. Personal. Soc. Psychol.* 44:807–16

Ryff CD, Keyes CLM. 1995. The structure of psychological well-being revisited. *J. Personal. Soc. Psychol.* 69:719–27

Ryff CD, Singer BH. 2006. Best news yet on the six-factor model of well-being. *Soc. Sci. Res.* 35:1103–19

Schindler I, Staudinger UM. 2005. Lifespan perspectives on self and personality. The dynamics between the mechanics and pragmatics of life. In *The Adaptive Elf: Personal Continuity and Intentional Self-Development*, ed. W Greve, K Rothermund, D Wentura, pp. 3–31. Cambridge, MA: Hogrefe & Huber

Schmutte PS, Ryff CD. 1997. Personality and well-being: reexamining methods and meanings. *J. Personal. Soc. Psychol.* 73:549–59

Searle JR. 1992. *The Rediscovery of the Mind*. Cambridge, MA: MIT Press

Singer W, Ricard M. 2008. *Hirnforschung und Meditation. Ein Dialog*. Frankfurt am Main: Suhrkamp Verlag

Smith J, Staudinger UM, Baltes PB. 1994. Occupational settings facilitative of wisdom-related knowledge: the sample case of clinical psychologists. *J. Consult. Clin. Psychol.* 62:989–1000

Sneed JR, Whitbourne SK. 2003. Identity processing and self-consciousness in middle and later adulthood. *J. Gerontol. Ser. B: Psychol. Sci. Soc. Sci.* 58B:313–19

Sowarka D. 1989. Weisheit und weise Personen: Common-Sense-Konzepte älterer Menschen [Wisdom and wise persons: common-sense views from elderly people]. *Zeitschrift für Entwicklungspsychol. und Pädagogische Psychol.* 21:87–109

Stange A. 2005. Die soziale Dimension von Weisheit: Bedingungen für die Wahrnehmung von Ratgebern als weise [The social dimension of wisdom: conditions for perceiving advice-givers as wise]. Unpubl. doctoral dissert., Free Univ. Berlin

Staudinger UM. 1996. Wisdom and the social-interactive foundation of the mind. In *Interactive Minds: Life-Span Perspectives on the Social Foundation of Cognition*, ed. PB Baltes, UM Staudinger, pp. 276–315. New York: Cambridge Univ. Press

Staudinger UM. 1999a. Older and wiser? Integrating results on the relationship between age and wisdom-related performance. *Int. J. Behav. Dev.* 23:641–64

Staudinger UM. 1999b. Social cognition and a psychological approach to an art of life. In *Social Cognition, Adult Development, and Aging*, ed. F Blanchard-Fields, T Hess, pp. 343–75. New York: Academic

Staudinger UM. 2001. Life reflection: a social-cognitive analysis of life review. *Rev. Gen. Psychol.* 5:148–60

Staudinger UM, Baltes PB. 1994. The psychology of wisdom. In *Encyclopedia of Intelligence*, ed. RJ Sternberg, pp. 1143–52. New York: Macmillan

Staudinger UM, Baltes PB. 1996. Interactive minds: a facilitative setting for wisdom-related performance? *J. Personal. Soc. Psychol.* 71:746–62

Staudinger UM, Dörner J, Mickler C. 2005. Wisdom and personality. In *A Handbook of Wisdom: Psychological Perspectives*, ed. R Sternberg, J Jordan, pp. 191–219. New York: Cambridge Univ. Press

Staudinger UM, Glück J. 2010. Wisdom. In *Cambridge Handbook of Intelligence*, ed. R Sternberg, SB Kaufman. New York: Cambridge Univ. Press. In press
Staudinger UM, Kessler E-M. 2009. Adjustment and growth—two trajectories of positive personality development across adulthood. In *Handbook of Research on Adult Learning and Development*, ed. MC Smith, N DeFrates-Densch, pp. 241–68. New York/London: Routledge
Staudinger UM, Kessler EM, Doerner J. 2006. Wisdom in social context. In *Social Structures, Aging, and Self-Regulation in the Elderly*, ed. KW Schaie, L Carstensen, pp. 33–54. New York: Springer
Staudinger UM, Kunzmann U. 2005. Positive adult personality development: adjustment and/or growth? *Eur. Psychol.* 10:320–29
Staudinger UM, Lopez DF, Baltes PB. 1997. The psychometric location of wisdom-related performance. *Personal. Soc. Psychol. Bull.* 23:1200–14
Staudinger UM, Pasupathi M. 2003. Correlates of wisdom-related performance in adolescence and adulthood: age-graded differences in "paths" towards desirable development. *J. Res. Adolesc.* 13:239–68
Staudinger UM, Smith J, Baltes PB. 1992. Wisdom-related knowledge in a life review task: age differences and the role of professional specialization. *Psychol. Aging* 7:271–81
Sternberg RJ. 1985. Implicit theories of intelligence, creativity, and wisdom. *J. Personal. Soc. Psychol.* 49:607–27
Sternberg RJ, ed. 1990. *Wisdom: Its Nature, Origins, and Development*. New York: Cambridge Univ. Press
Sternberg RJ. 1998. A balance theory of wisdom. *Rev. Gen. Psychol.* 2:347–65
Sternberg RJ, ed. 2000. *Intelligence and Wisdom*. New York: Cambridge Univ. Press
Sternberg R. 2001a. Why schools should teach for wisdom: the balance theory of wisdom in educational settings. *Educ. Psychol.* 36:227–45
Sternberg RJ. 2001b. How wise is it to teach for wisdom? A reply to five critiques. *Educ. Psychol.* 36:269–72
Sternberg RJ. 2003. WICS: a model of leadership in organizations. *Acad. Manage. Learn. Educ.* 2:386–401
Sternberg RJ. 2004. What is wisdom and how can we develop it? *Ann. Am. Acad. Pol. Soc. Sci.* 591:164–74
Sternberg RJ. 2007. A systems model of leadership: WICS. *Am. Psychol.* 62:34–42
Sternberg RJ. 2008. Schools should nurture wisdom. In *Teaching for Intelligence*, ed BZ Presseisen, pp. 61–88. Thousand Oaks, CA: Corwin. 2nd ed.
Sternberg RJ, Jarvin L, Grigorenko EL, eds. 2009. *Teaching for Wisdom, Intelligence, Creativity, and Success*. Thousand Oaks, CA: Corwin
Sternberg RJ, Reznitskaya A, Jarvin L. 2007. Teaching for wisdom: What matters is not just what students know, but how they use it. *Lond. Rev. Educ.* 5:143–158
Takahashi M, Bordia P. 2000. The concept of wisdom: a cross-cultural comparison. *Int. J. Psychol.* 35:1–9
Takahashi M, Overton WF. 2002. Wisdom: a culturally inclusive developmental perspective. *Int. J. Behav. Dev.* 26:269–77
Takahashi M, Overton WF. 2005. Cultural foundations of wisdom: an integrated developmental approach. See Sternberg 1990, pp. 32–60
Tedeschi RG, Calhoun LG. 2004. Posttraumatic growth: conceptual foundations and empirical evidence. *Psychol. Inq.* 15:1–18
Vroom V, Jago A. 2007. The role of the situation in leadership. *Am. Psychol.* 62:17–24
Walaskay M, Whitbourne SK, Nehrke MF. 1983–1984. Construction and validation of an ego integrity status interview. *Int. J. Aging Hum. Dev.* 18:61–72
Waterman AS. 1993. Two conceptions of happiness: contrasts of personal expressiveness (eudaimonia) and hedonic enjoyment. *J. Personal. Soc. Psychol.* 64:678–91
Webster JD. 2003. An exploratory analysis of a self-assessed wisdom scale. *J. Adult Dev.* 10:13–22
Webster JD. 2007. Measuring the character strength of wisdom. *Int. J. Aging Hum. Dev.* 65:163–83
Wink P, Helson R. 1997. Practical and transcendent wisdom: their nature and longitudinal findings. *J. Adult Dev.* 4:1–15
Yang S-Y. 2001. Conceptions of wisdom among Taiwanese Chinese. *J. Cross-Cult. Psychol.* 32:662–80
Zaccaro S. 2007. Trait-based perspectives of leadership. *Am. Psychol.* 62:6–16
Zaccaro S, Kemp C, Bader P. 2004. Leader traits and attributes. In *The Nature of Leadership*, ed. J Antonakis, AT Cianciolo, RJ Sternberg, pp. 101–124. Thousand Oaks, CA: Sage

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