

The Fascination of Wisdom

Its Nature, Ontogeny, and Function

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ABSTRACT—*Wisdom has intrigued both scholars and laypersons since antiquity. On the one hand, its seemingly ethereal yet obvious qualities are timeless and universal. On the other hand, these same qualities are evolving and responsive to historical and cultural change. Novel societal and personal dilemmas emerge over time, and the ways and means to deal with recurring dilemmas are revisited and updated with prudence. Building on philosophical analyses of the role of theoretical and practical wisdom in good conduct and judgment about life matters, psychologists have begun to apply scientific methods to questions about the nature, function, and ontogeny of wisdom. We outline these research directions and focus on the Berlin Wisdom Paradigm, which was one of the first attempts to bring wisdom into the laboratory. Future research on wisdom would profit from interdisciplinary collaboration and creative application of new methods drawn from developmental, social, and cognitive psychology.*

Throughout the centuries, wisdom has been exalted in many cultures as a desired resource representing the ideal integration of knowledge and action, mind and virtue (Assmann, 1994; Baltes, 2004; Clayton & Birren, 1980). In antiquity, wisdom was reserved for divine beings. It was worshipped but was beyond the reach of mortals, until it was secularized by the Greek philosophers Socrates, Plato, and Aristotle. Since that time, scholars in western cultures have contemplated the nature of the wisdom of human beings and its role in the conduct of life and the organization of society. This discourse continues in contemporary studies of ethics, politics, science, morality, and the meaning of life. Wisdom is associated with good judgment and actions that contribute to living well (e.g., Kekes, 1983, 1988; Maxwell, 2004; Nozick, 1989; Nussbaum, 2001; Thiele, 2006). Kekes

(1988), for example, summarizes the importance of wisdom, “Wisdom is like love, intelligence, and decency in that it is a good thing to have and the more that we have of it the better we are. The opposite of wisdom is foolishness, universally recognized to be a defect” (p. 145).

Whereas philosophers provide eloquent and insightful commentaries about the nature, function, and ontogeny of wisdom, they rarely devise ways to test their proposals empirically. This is the contribution of psychological scientists. We begin this article with a brief and selective overview of philosophical perspectives on wisdom and how these are reflected in contemporary psychological research (see Baltes, 2004; Birren & Svensson, 2005; Brugman, 2006; Collins, 1962; Sternberg, 1990; Sternberg & Jordan, 2005; Thiele, 2006, for extensive reviews). For illustrative purposes, we then focus on the potential and limits of one attempt to investigate wisdom from a psychological perspective, namely the approach pursued by the Berlin Wisdom Project. This project was established by Paul B. Baltes at the Max Planck Institute for Human Development in Berlin in the 1980s (e.g., Baltes, 2004; Baltes, Dittmann-Kohli, & Dixon, 1984; Smith & Baltes, 1989) and was revised over the ensuing years with successive cohorts of collaborators (e.g., Baltes & Freund, 2003; Baltes, Glück, & Kunzmann, 2002; Baltes & Smith, 1990; Baltes & Staudinger, 2000; Kunzmann & Baltes, 2005; Scheibe, Kunzmann, & Baltes, 2007). Finally, we turn to the future and suggest some research directions that, in our opinion, might further contribute to understanding this elusive but fundamentally important concept.

PHILOSOPHICAL PERSPECTIVES ON WISDOM

The substantial foundations for contemporary reflection about the nature and function of wisdom were laid by the ancient Greek philosophers. Wisdom was established as an intellectual virtue and as a means for individuals and communities to live well despite the uncertainties of human life (Kekes, 1988; Nussbaum, 2001; Taylor, 1955). Since then, there has been considerable debate about the essential components of wisdom. For example, does it require not only extensive practical knowledge

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about ways of acting to deal with life problems, but also technical and theoretical (scientific) knowledge about life? To become wise, do individuals need to be of good (moral) character and live a good life?

Aristotle was one of the first to argue for the primacy of practical over theoretical knowledge in decisions about the appropriate and ethical ways to act in life matters (e.g., Taylor, 1955). He believed that practical wisdom enabled an individual to resourcefully adapt theoretical and scientific understanding to concrete situations and dilemmas (e.g., Kekes, 1983; Nussbaum, 2001; Taylor, 1955). Practical wisdom in Aristotle's model presupposed that an individual was also morally virtuous. Practical wisdom is used to set priorities for action, and this selection process is guided by intuition and values and tempered by emotion.

Having linked knowledge, action, and judgment to wisdom, ancient philosophers also considered how wisdom could be cultivated, especially in public officials responsible for making decisions about the common good and welfare of the citizens under their leadership (Baltes, 2004; Taylor, 1955). Aristotle, for example, insisted that only individuals with good character could acquire excellence in practical wisdom and that both good character and practical wisdom could be trained (Taylor, 1955). He advocated long-term affiliation with a mentor who was known to have exemplary character and to exhibit good judgment and action.

Subsequent philosophers (e.g., Machiavelli, Nietzsche, and Gadamer) pointed to the plurality of wisdom as it is constructed by humans for humans and placed less emphasis on the importance of a moral character (Thiele, 2006). The idea that there is but one "good life" to which all humans aspire is acknowledged as utopian. Instead, there are many versions of a good life, which means that there are also many ways to achieve excellence within the constraints of socially-accepted values and ethics. Some have argued that the hallmark of wisdom is knowing how, where, and when to take risks and to deal with uncertainty (e.g., Brugman, 2006; Nussbaum, 2001). There is general agreement, however, that the acquisition of wisdom requires time and effort and that it involves some combination of education, practice, apprenticeship, personal experience, and deliberate reflection about life matters.

PSYCHOLOGICAL PERSPECTIVES ON WISDOM

The longstanding discussions in the philosophical literature provide extensive insights into ways of thinking about the complexity and conundrums of wisdom. Among other issues, this literature highlights questions about (a) the essential components of wisdom, (b) its structure (e.g., the relative importance of different types of knowledge), and (c) how wisdom is acquired. It also sets out the difficulties involved in trying to identify universal personal qualities, values, rules of conduct, or pathways to wisdom-related outcomes (such as a good life).

Given this background, it is legitimate to ask what a psychological perspective on the study of wisdom might contribute. One agenda of psychological science is to study general processes of the mind and behavior using standardized empirical and experimental methods. In this regard, psychologists devise methods to investigate implicit beliefs about wisdom, good judgment, and prudent behavior in secondary data (e.g., texts, speeches, or the life stories of individuals who are considered wise) or in vivo in the field or the laboratory. Another psychological agenda is to ask questions about individual differences and development: How does wisdom develop over the lifespan, and why are some individuals wiser than others?

Psychological research on wisdom is relatively young and, given the philosophical roots of the topic, it is understandably characterized by approaches that reflect the different interests of social-psychological, personality, cognitive, and lifespan researchers. Nevertheless, several theories and methods have been established, and these are embedded in philosophical tradition (see Birren & Svensson, 2005). Indeed, Brugman (2006) concluded in his review of psychological perspectives on wisdom that "almost all philosophical notions about wisdom have been incorporated in psychological theories" (p. 447).

Initial research by Clayton and Birren (1980) examined the beliefs and implicit theories that people hold about the nature of wisdom and the characteristics of people who are considered wise. They determined that wisdom is associated with cognitive, affective, and reflective characteristics and that wise persons are knowledgeable, mature, tolerant, emphatic, experienced, and intuitive. Subsequent studies have established that socially shared concepts of wisdom differ from concepts of other desirable psychological characteristics, such as intelligence, creativity, or a mature personality profile (e.g., Holliday & Chandler, 1986; Sternberg, 1985). Researchers have also asked whether implicit beliefs about wisdom differ across cultural groups, organize judgment and behavior in social life (e.g., professional settings, mentoring), or regulate personal growth. In addition, contemporary work includes methods developed to assess the personality and affective characteristics attributed to wise persons (e.g., Ardel, 2004), as well as those attributed to wisdom-related knowledge and behavior. All of these approaches are described in chapters in Sternberg (1990) and Sternberg and Jordan (2005). We focus on one approach, the Berlin Paradigm, in the following section.

THE BERLIN WISDOM PARADIGM: ITS POTENTIAL AND LIMITS

Since the early 1980s, Paul B. Baltes and his colleagues at the Max Planck Institute for Human Development in Berlin sought to integrate concepts of wisdom derived from philosophy with theories and methods derived from lifespan psychology (Baltes, 2004). The Berlin Wisdom Project is guided by a heuristic framework that defines wisdom, makes proposals about the on-

togeny and application of wisdom, and provides criteria for evaluating wisdom-related products and performance. The framework serves as a basis for study design and for the evaluation of wisdom-related phenomena.

Our efforts to bring research on wisdom into the laboratory have fostered both critique and praise (e.g., Ardel, 2004; Brugman, 2006; Sternberg & Jordan, 2005). Although we shared the concerns about the dangers inherent in reducing and exposing such a complex concept to the rigors of definition and standardized experimentation, the Berlin group persisted in this endeavor because we believed that our efforts add to an understanding of the phenomena.

Heuristic Framework About the Nature and Ontogeny of Wisdom

The Berlin Paradigm combines a broad definition of wisdom as excellence in mind and virtue with a specific characterization of wisdom as an expert knowledge system dealing with the conduct and understanding of life. We called this domain of knowledge the *fundamental pragmatics of life* (see Fig. 1). It is applied to *life planning* (e.g., which future life goals to pursue and how?), *life management* (e.g., how to deal best with critical problems such as suicide or family conflict?), and *life review* (e.g., how best to make sense of our life history and past experiences?). This knowledge is used by an individual to construct her or his own life. Alternatively, it contributes to the coconstruction of the lives of others in the form of good advice, exceptional judgment, excellent mentoring, or insightful organization of education and society.

We specified a two-tiered family of five criteria of excellence (expertise) in the domain, fundamental pragmatics of life. At the first level, expertise consists of rich factual and procedural

knowledge. Our concept of factual knowledge is similar to Aristotle's theoretical wisdom. It involves a deep understanding of human nature, lifelong development, social norms and their implications, variations in developmental processes and outcomes, interpersonal and intergenerational relations, and identity issues. Extensive procedural knowledge in the Berlin model of expertise is a modern variant of practical wisdom. This involves knowing how and when to apply one's knowledge to review past life decisions, give advice about current life dilemmas, and construct a plan for the future.

The second level includes three metacriteria which, in our opinion, work together to further specify the unique aspects of a wisdom-related expert knowledge system: lifespan contextualism, value relativism, and the recognition and management of the fundamental uncertainty of life matters. These aspects are included in the model to reflect post-Aristotelian philosophical perspectives on wisdom (Baltes, 2004). Lifespan contextualism refers to knowledge about the normative and nonnormative influences on an individual's life (e.g., sociocultural, historical, and biological factors versus idiosyncratic events). Value relativism entails knowledge about differences in values, goals, and priorities. Such knowledge is shown in the expression of tolerance and respect for beliefs and actions that may be unfamiliar or contrary to one's own. Dialectical and social cognitive theories of wisdom have pointed to the significance of relativism in adult development and to its role in the coordination of cognition and emotion (e.g., Kramer, 2000; Labouvie-Vief, 1990). Knowledge about the uncertainty inherent to all aspects of life is coupled with knowledge about ways to manage uncertainty effectively so that individuals and societies can progress.

Initial papers from the Berlin group (e.g., Baltes et al., 1984; Baltes & Smith, 1990; Smith, Dixon, & Baltes, 1989) suggested that wisdom-related knowledge is a prototype of crystallized intelligence that is maintained late into old age. It relies on basic fluid abilities but clearly involves extensive general and specialized knowledge. Our specific definition of wisdom as an expertise was a deliberate effort to indicate that it was not intelligence in the usual sense, but a substantially more complex system of knowledge, procedural strategies, and intuition. This translated some of the components of wisdom proposed by the ancient Greek philosophers into the language of cognitive scientists at the end of the 20th century, who study exceptional performance in complex domains (e.g., Ericsson & Smith, 1991).

To complete this heuristic framework, Baltes and colleagues (Baltes & Smith, 1990; Baltes & Staudinger, 2000) added suggestions about the possible ontogeny and manifestations of wisdom. The acquisition of an expert system of wisdom, we argue, requires concerted personal and societal investment of considerable time, effort, motivation, and structured experience. This is illustrated in Figure 2. Three sets of antecedents and correlates are thought to be associated with orchestrating the development, maintenance, and application of wisdom: general person factors (e.g., ability, personality), specific ex-

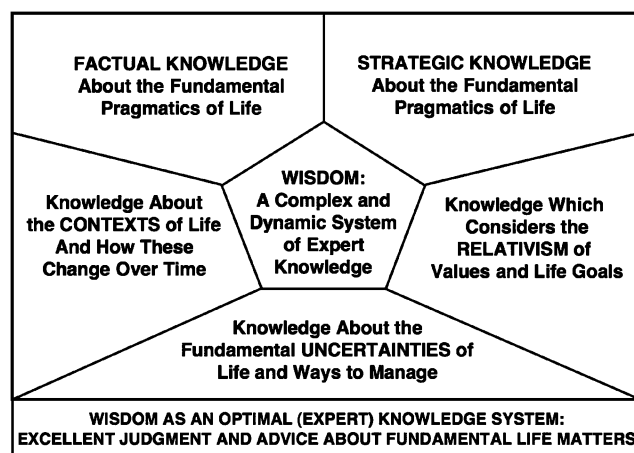


Fig. 1. Wisdom as a complex and dynamic system of exceptional knowledge (expertise) in the fundamental pragmatics of life. The family of five metacriteria, which together characterize wisdom in the Berlin paradigm, can be used to evaluate the quantity and quality of wisdom-related knowledge and behavior. (Adapted from Baltes & Smith, 1990; Baltes et al., 1992; Baltes & Staudinger, 2000; Kunzmann & Baltes, 2005.)

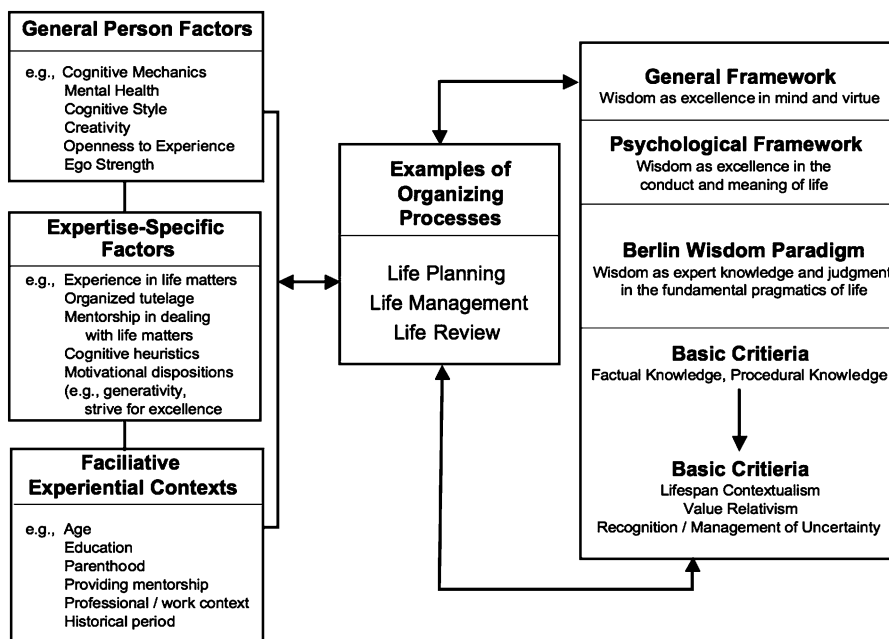


Fig. 2. The Berlin Wisdom Paradigm: Antecedents, correlates, and consequences of wisdom-related knowledge and behavior. Examples of the wide range of context-, expertise-, and person-related factors and processes that contribute dialectically to the ontogeny and expression of wisdom-related knowledge and behavior. (Adapted from Baltes & Smith, 1990; Baltes et al., 1992; Baltes & Staudinger, 2000; Kunzmann & Baltes, 2005; Pasupathi et al., 2001; Staudinger, 1996.)

expertise-related factors (e.g., exposure to life dilemmas and significant life events, motivation, mentorship), and context (e.g., age, cohort, historical period, culture). We assume that in the course of development, all individuals have access to and acquire parts of this socially shared knowledge system and approximate different levels of expertise. The question of which contexts and factors summarized in Figure 2 specifically operate to facilitate or set constraints on acquiring wisdom (both by themselves and in combination) is still open.

Observable indicators of wisdom-in-action include such verbal behaviors as exceptionally good judgment; good advice; insightful commentary about difficult and uncertain matters of life; and nonverbal behaviors associated with good conduct, emotion regulation, and empathy in interpersonal and group contexts. Wisdom might be observed in the content of a document or as behavior-in-action in the context of family life, a discussion between strangers, a student–mentor or doctor–patient consultation, or in more public situations (e.g., exchanges within and between organizations).

Examples of Research Derived From the Berlin Framework

Members of the Berlin Wisdom Project have carried out a number of investigations using different methods to examine various components of this framework. One set of studies used open-ended questions and rating scales to examine whether implicit theories about wisdom structure concepts of change

during adulthood. Heckhausen, Dixon, and Baltes (1989), for example, found that wisdom was one of the few positive characteristics expected to be gained in late life. Baltes and Freund (2003) found that life management strategies such as goal selection, compensation, and optimization of development were reflected in proverbs and aphorisms. Glück, Bluck, Baron, and McAdams (2005) examined whether implicit theories about the development of personal characteristics associated with wisdom are evident in life narratives.

A second set of studies used a method intended to simulate discourse (judgment and advice) about life matters in the context of life planning (Smith, 1999; Smith & Baltes, 1990), life review (Staudinger, Smith, & Baltes, 1992), and life management (Maercker, 1992). A standardized procedure was devised in which participants spontaneously think aloud about short hypothetical vignettes of difficult and uncertain life situations. For example: one receives a call from a good friend who says that he or she can not go on anymore and wants to commit suicide, one is consulted by a 15-year-old girl who wants to get married right away, or one is part of a dual-career couple who have to weigh the gains and losses involved if one partner accepts a job offer in a different state. What could one consider and do? What advice could be given? Spontaneous spoken responses to these and similar vignettes are recorded and transcribed. Unlike research on intelligence and everyday problem solving, there are no correct answers to these dilemmas: We propose that high quality responses require expert knowledge in the fundamental pragmatics of life. Note that we typically do not ask individuals

to talk about their own life decisions. Our prime interest, instead, is in having a common standardized task that allows a comparison of responses obtained from different individuals and groups.

An additional feature of our simulation approach is important because it integrates elements of implicit theories about wisdom. Based on the assumption that there is a fair degree of consensus about what constitutes a wise response, we have panels of raters who use 7-point scales to assess the quality of wisdom-related knowledge evident in participants' responses. Generally, one group of raters provide overall ratings based on their implicit theories of wisdom (e.g., how wise is this response?), whereas other groups are trained explicitly to rate responses separately on one or more of the five Berlin criteria of wisdom-related knowledge. The collection and assessment of wisdom-related knowledge using this standardized approach appears to be reliable and valid (see Baltes & Staudinger, 2000; Smith & Baltes, 1990; Smith, Staudinger, & Baltes, 1994; Staudinger et al., 1992).

Our research program using this simulation method has been fertile. It includes several task and design variations. We have investigated the effects of participant age and professional specialization, task type (normative and nonnormative situations of life planning, life review, life management), and the age of the protagonists in the hypothetical vignettes (see Baltes & Kunzmann, 2004; Baltes & Staudinger, 2000, for reviews). We also studied the characteristics and responses of public figures who were nominated as being wise by an independent group of prominent journalists who were not familiar with our explicit model (Baltes, Staudinger, Maercker, & Smith, 1995). Several studies have examined a number of individual difference correlates of wisdom-related knowledge (e.g., personality, intelligence, life experience, emotion regulation, motivation, and personal values; Kunzmann & Baltes, 2003; Staudinger, Lopez, & Baltes, 1997). Finally, task context and instruction have been varied to examine whether or not responses can be optimized by social and mnemonic interventions. For example, are two or more minds better than one? Staudinger (1996) and Baltes and Staudinger (1996) found that the responses of participants who completed a task alone were not evaluated as highly as those from individuals who had the opportunity to discuss the problem in person first with one significant other or with a group or those from individuals who were instructed to consult an "inner voice" of their choice (i.e., "First, think how a person whose advice you value might respond").

The selection of each of these design features, which address different questions about the nature and ontogeny of wisdom, is guided by the heuristic Berlin framework outlined in Figure 2. Since 2000, researchers in the Berlin group have developed new methods to study the social and emotional behaviors that wise individuals display in addition to their exceptional verbal commentaries about life matters (Kunzmann & Baltes, 2005; Stange, 2005). In the tradition of implicit approaches, these new

studies investigate the social and nonverbal behaviors and actions that make some individuals appear to be wise in the eyes of others (e.g., emotion control in stressful situations or empathetic listening to someone in trouble).

Summary of Major Findings

First, in the true spirit of wisdom as representing a utopian quality, high levels of wisdom-related knowledge are rare. Many adults are on the way towards wisdom, but very few people display a high level of wisdom-related knowledge or behavior as we assess it.

Second, the period of late adolescence and early adulthood appears to be the primary age window for wisdom-related knowledge to emerge (e.g., Pasupathi, Staudinger, & Baltes, 2001). To date, few age-group differences have been observed in the average levels of wisdom achieved during adulthood (Staudinger, 1999; see also Sternberg & Jordan, 2005). Furthermore, findings suggest that each phase of the life course fosters its own specific wisdom-related knowledge about normative developmental tasks and nonnormative events. When the content of wisdom tasks is age-matched, people show higher levels of performance in the life planning and life review simulation tasks (see Smith & Baltes, 1990; Smith et al., 1994; Staudinger, 1999).

Third, for wisdom-related knowledge and judgment to develop beyond the level achieved in early adulthood, there are other critical factors in addition to age. It takes a complex coalition of enhancing factors from a variety of domains (psychological, social, professional, historical) to achieve peak levels of wisdom. If such a coalition is present, some individuals may continue a developmental trajectory toward higher levels of the wisdom expert system of knowledge. As a consequence, older adults are possibly disproportionately represented among the exclusive group of top performers and people nominated as wise. Wisdom is one domain in which some older individuals excel. Simply getting older and reaching old age, however, is not a sufficient condition for wisdom.

Fourth, during adulthood, intelligence is not the most powerful predictor of wisdom-related knowledge. Instead, high predictive value comes from a combination of psychosocial characteristics and life history factors, including openness to experience, generativity, cognitive style, contact with excellent mentors, and some exposure to structured and critical life experiences. Furthermore, people higher in wisdom-related knowledge evince a complex and modulated profile of emotions and values (Kunzmann & Baltes, 2003). They value the welfare of others more than their own happiness and report high engagement in ensuring the well-being and interests of others, including the preferred use of negotiation strategies in conflict resolution and management.

Fifth, intervention studies show that people possess larger amounts of wisdom-related knowledge than is evident in our standard assessment procedure. This indicates that competence

is often higher than performance indicates. For example, people can be guided to express markedly higher levels of wisdom-related knowledge by memory cues or instructions to consult an inner voice (internal dialogue with significant others). This may also be true when it comes to emotion regulation.

Finally, wisdom is manifested in nonverbal and social behavior. Actions considered to be appropriate to confidential advice giving such as attentive listening, empathy, and tempered concern contribute to the attribution that a person is wise, especially if combined with older age and a wise verbal commentary (Stange, 2005).

In sum, we consider that it is possible and worthwhile to bring wisdom into the laboratory so that it can be assessed with the level of scientific rigor that allows an examination of hypotheses. The Berlin paradigm provides a useful heuristic framework for generating questions and research designs. Nevertheless, caution and creativity is required so that the wisdom construct under investigation in an experimental setting retains some of the elusive and complex qualities associated with it in implicit theories.

OUTLOOK: PROMISING FUTURE DIRECTIONS IN RESEARCH ON WISDOM

In our view, wisdom is a research topic that holds much promise for the future as psychologists turn their attention to positive qualities and excellence in human behavior and to significant contributions made to the common good of society. In particular, as suggested by philosophers, studies of the nature, ontogeny, and application of wisdom will also further our understanding of life quality, individual competence, social justice, and human dignity (Baltes, 2004; Kekes, 1988; Sternberg & Jordan, 2005).

There is still much to investigate about the antecedents, correlates, and functions of wisdom and wisdom-in-action from a psychological perspective. Personal life experiences and exposure to different beliefs and values in daily life in a multicultural setting or in particular historical periods of political and societal change may prove to be important influences in facilitating the acquisition of wisdom. None of the many individual difference constructs (e.g., intelligence, personality) that the Berlin group and others have considered in studies to date have explained more than a small share of the reliable variance in wisdom-related knowledge and behavior. Furthermore, we know relatively little about wisdom-in-action—only a small set of wisdom-related vignettes, tasks, and behaviors have been studied in the field and laboratory.

What research directions might be most fruitful? Our suggestions come with the caveat that they reflect our own lifespan theoretical and methodological biases and the state of the literature about wisdom in 2006 (refer to chapters in Sternberg & Jordan, 2005, for additional suggestions). Specifically, we propose that future research should expand the range of tasks and behaviors examined, employ dynamic and microlongitudinal

designs to address questions about ontogeny and function, and connect psychological approaches to wisdom with interdisciplinary efforts to understand the biopsychosocial dynamics that orchestrate optimal human development and foster vitality in old age.

Expanding the Range of Wisdom-Related Tasks and Behaviors Examined

The Berlin group and others have examined a relatively small set of vignettes describing difficult dilemmas of life planning, life review, and life management in the think-aloud simulation procedure. On the one hand, it is important to have a standard set available to facilitate replication of findings and provide a benchmark for comparison. But, on the other hand, we did not design these vignettes to be the definitive tests of wisdom-related knowledge, and they have not been subjected to extensive analysis to determine their psychometric properties.

The time is ripe to devise new vignettes and to compare performance across wisdom-related tasks. In separate studies, as reported in various publications (e.g., Baltes et al., 1995; Smith & Baltes, 1990; Smith et al., 1994; Staudinger et al., 1992), we suspected that some of our vignettes and some tasks might have been more difficult than others and that there may be differences in sensitivity to exceptional rather than average level wisdom-related knowledge. Such methodological work requires access to large samples and an interest in test battery construction. This has not been a primary focus of the Berlin group.

Future research could also address knowledge about foolish behavior as the counterpart of wisdom (e.g., Sternberg, 2004). For example, commentaries about why actions and life decisions outlined in vignettes are foolish could be rated on the Berlin criteria to see if such texts cue wisdom-related knowledge. An intriguing question is whether people on average find it easier to say what not to do so as to avoid being labeled foolish than to give wisdom-related advice about potentially advantageous actions that promote growth. Indeed, one additional indicator of expertise in wisdom-related knowledge about the conduct of life may be that advice includes a positive constructive ratio (or balance) of suggestions about things to do over things to avoid.

Beyond extending the range of vignettes used in the Berlin think-aloud simulation procedure, we recommend devising new ways to examine wisdom-related knowledge and behavior in the laboratory. In particular, recent work in Berlin (e.g., Kunzmann & Baltes, 2003, 2005) considering aspects of emotion regulation, values, social interaction, and nonverbal listening behavior (Stange, 2005) offers a new window on the expert system of wisdom. A comparative study of the reactions to instructions that cue different implicit theories (e.g., *act wisely* vs. *be smart*) may also be informative. These research directions are more amenable to experimental settings and are less cost- and time-intensive than think-aloud protocols or interviews that must be collected and scored.

Employing Dynamic and Microlongitudinal Designs for Questions About Ontogeny and Function

The majority of findings about the development of wisdom in the literature, including our own, are based on cross-sectional comparisons of relatively small select samples. Age-group differences at a single point in time do not necessarily reflect developmental trajectories. One exception to this critique is the longitudinal study of a personality perspective on wisdom reported by Helson and colleagues (e.g., Helson & Srivastava, 2002).

There are alternatives to longitudinal studies over many years, such as microlongitudinal and dynamic designs. Microlongitudinal designs, for example, could be used to investigate questions about the role of exposure (direct and indirect) to particular life events for the acquisition of wisdom-related knowledge. Ideally, one would like to have a pre-/postevent design with additional measurement occasions scheduled in-between and with longer term follow-ups, but this may not always be possible.

Microlongitudinal designs could also be applied to investigate the dynamics of wisdom-in-action in settings associated with either the application or acquisition of wisdom. Do people learn from foolish life decisions, for example? A study to address this question might be conducted using a computer simulation of a hypothetical game of life or with online internet or Palm Pilot methodology. Similar designs could explore online selection of goals in the construction of a life plan, or they could monitor wisdom-related behaviors such as group management and negotiation in the context of complex, difficult, and uncertain tasks. The temporal and dynamic process of advice giving and mentoring in dyads is another area worthy of investigation from a wisdom perspective.

Studies of these topics to date have typically involved single sessions of data collection and so allow only limited insight into the process and outcomes of wisdom-related behavior. It is an open question whether participants in such microlongitudinal

studies would show changes in the quantity and quality of wisdom-related responses and behaviors over time with repeated exposure to an issue, person, or task. What predicts becoming wiser, remaining stable, or showing a reduction in wisdom-related performance? Such a methodology enables a simulation of familiarity and experience somewhat independent of age and cohort. Repeated exposure to an advisor or mentor may also produce changes in the perception of the quality of wisdom-related knowledge of that person. All of these questions and many others about individual differences in intraindividual trajectories of wisdom-related knowledge and behavior could be addressed using multilevel designs and analysis strategies.

Connection to Research on Optimal Human Development and Aging

Many psychological researchers value the investigation of individual characteristics and processes that assist adults to deal with the challenges of living and aging in an increasingly complex world. Research on wisdom is attractive in this context, because it integrates ideas about optimization and successful aging with a recognition of the ultimate constraints on these endeavors (Baltes & Freund, 2002; Baltes, Smith, & Staudinger, 1992). As indicated in Figure 3, there may be some use in integrating research on wisdom with other approaches to understanding optimal human development. In this integration, we view wisdom-related knowledge at a societal and individual level as contributing to the benchmark of good conduct and judgment about life matters. This knowledge system provides critical direction in the orchestration of life-management strategies such as selection, optimization, and compensation. Finally, processes of life longing (called *Sehnsucht* in German, encompassing concepts such as goals, regrets, hopes, wishes, possible selves, ideal selves, personal projects, and life tasks) are relevant because all individuals are confronted with the constraints of ontogenetic incompleteness and imperfection,

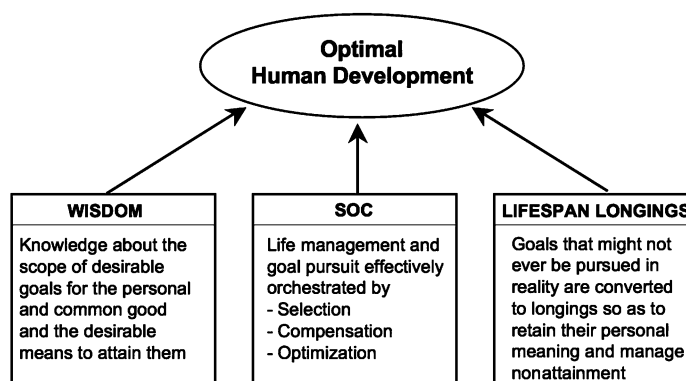


Fig. 3. Theoretical model of the interacting roles of wisdom; selection, optimization, and compensation (SOC) life-management strategies; and lifespan longings in the construction of optimal human development. (Adapted from Baltes & Freund, 2002; Baltes & Kunzmann, 2003; Scheibe, Kunzmann, & Baltes, 2007.)

which set limits on optimal development and aging (Scheibe, Freund, & Baltes, 2007; Scheibe et al., 2007).

This integration of lifespan approaches may serve as a way to understand responses to societal and personal life challenges, especially in old age. Indeed, research to date continues to support the idea that wisdom, life-management strategies, possible selves, and life longings are aspects of individual-level functioning that do not show the typical patterns of age-related decline found in many other psychological domains (e.g., cognition or physical functioning). In this sense, a research focus on wisdom and related concepts is one way to promote a balanced picture of old age as potentially being a period of psychological vitality as well as one of inevitable physical losses (e.g., Baltes & Smith, 2003). In addition, a special need for wisdom has emerged over the last 100 years due to the aging demographics of many countries around the world. The fact that increasing numbers of individuals experience an extended period of old and very old age is a new phenomenon. Currently, neither societies nor individuals have the necessary theoretical and practical knowledge that would assist them to anticipate and master the uncertainties of this life period.

Acknowledgments—Paul B. Baltes died on November 7, 2006, after an earlier draft of this article was submitted. The original article was revised by Jacqui Smith after his death. She takes responsibility for the final content.

This article is dedicated to the substantial contributions of Paul B. Baltes to lifespan theory and research on aging. It reflects his insight in founding and leading the Berlin Wisdom Project and his collaboration with the coprincipal investigators (listed in historical order from 1982 to 2006): Freya Dittmann-Kohli, Jacqui Smith, Ursula M. Staudinger, and Ute Kunzmann. Over the years, many suggestions have been provided by other colleagues in the Institute in Berlin and members of the Wisdom Project, in particular Margret Baltes, Susanne Böhmig-Krumhaar, Roger Dixon, Alexandra Freund, Judith Glück, Jutta Heckhausen, Reinhold Kliegel, Deidre Kramer, Ulman Lindenberger, David Lopez, Anna Maciel, Andreas Maercker, Monisha Pasupathi, Susanne Scheibe, Yvonne Schütze, Doris Sowarka, and Antje Stange.

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