

Wisdom and Age – A Complex Association

Ute Kunzmann

University of Leipzig, Germany

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Margie Lachman, Avron Spiro, Editors

Susan Charles, Shevaun Neupert, Associate Editors

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The goal of this chapter is to answer a seemingly simple question, namely, does aging make us wise? For this purpose, I first provide an overview of how psychologists have defined and measured wisdom. In a second section, I discuss empirical research on age differences in wisdom. Four preliminary conclusions can be drawn from this research. First, older people are not, on a group average, wiser than young adults are. Second, depending on the availability of internal and external wisdom-enhancing resources, wisdom might increase with age in some people, remain stable in others, and decrease in still others. Third, some dimensions of wisdom are more easily developed or at least maintained over the life span than others. Fourth, age differences in wisdom depend, at least in part, on the situational context and the specific wisdom task; for older adults to show their potential, situational conditions must be age-relevant. These conclusions are preliminary mainly because, with few exceptions, past studies are cross-sectional, with a focus on between-person age differences rather than within-person changes in wisdom. In the third section of the chapter, I propose a theoretical model that summarizes what is known about the relationship between age and wisdom and provides a framework for future research. Three promising future research directions are discussed in a fourth section. In conclusion, I argue that it is important that at least some individuals strive for wisdom - even though most people are not wise in an ideal sense even after a long life.

Psychological Definitions of Wisdom

Wisdom is a human strength highly valued in both philosophical and religious writings since antiquity (e.g., Assmann, 1994; Kekes, 1995). Central to this concept is the notion of a perfect, perhaps utopian, integration of knowledge and character, mind and virtue (e.g., Baltes & Staudinger, 2000). Although the psychology of wisdom is a relatively small field, researchers

from various psychological sub-disciplines have developed promising theoretical models (e.g., Ardel, 2003; Baltes & Smith, 1990; Grossmann et al., 2020; Sternberg, 1998). According to these models, wisdom differs from other human capacities in that it provides an integrative and holistic perspective on challenges and problems of human existence - a perspective that incorporates past, present, and future dimensions of phenomena, values diversity in perspectives, accounts for contextual variations, and acknowledges the uncertainties inherent in any sense-making of the past, present, and future.

Despite broad agreement on the core elements of wisdom, the existing wisdom models also differ in individual aspects and are sometimes associated with different methods of assessing wisdom. In this respect, two research traditions deserve special attention. In a tradition of cognitive psychology, wisdom has been defined as excellent knowledge and judgment in dealing with existential life problems, and performance-based tests have been developed to measure the quality of this knowledge and judgment (e.g., Baltes & Smith, 1990; Grossmann et al., 2010; Sternberg, 1998). A second tradition defines wisdom as a mature form of personality. In this tradition of personality research, researchers have identified the cognitive, social, and emotional traits typical of the wise personality and have developed questionnaires to measure these traits (e.g., Ardel, 2003; Webster, 2003).

Wisdom as Excellent Knowledge and Judgment

The Berlin Wisdom Model developed by Paul Baltes and his colleagues in the late 1980s is a first example of a wisdom model in the cognitive tradition (e.g., Baltes & Smith, 1990; Baltes & Staudinger, 2000; Baltes & Kunzmann, 2004). The theoretical background for the Berlin wisdom model is the two-component model of intelligence that distinguishes mechanical and pragmatic forms of intelligence (e.g., Baltes & Smith, 1990). Cognitive mechanics refer to the neuro-

physiological architecture of the brain as it has evolved during phylogenetic evolution. Speed, accuracy, and the coordination of basic information-processing operations are examples of cognitive mechanics. By contrast, cognitive pragmatics refer to culturally transmitted bodies of knowledge. Typical examples are reading and writing. According to Baltes and his colleagues, wisdom-related knowledge is a prototypical example of cognitive pragmatics. In contrast to other relatively circumscribed pragmatic abilities, however, wisdom refers to knowledge about fundamental problems related to the meaning and conduct of life. Thus, the scope of wisdom-related knowledge is broad because it refers to life in general, but also narrow in that wisdom-related knowledge only deals with fundamental, that is, difficult and uncertain problems related to the meaning and conduct of life. Accepting the death of a loved one, dealing with one's own mortality, or solving long-lasting conflicts among family members exemplify the type of problem that calls for wisdom-related expertise. Such problems usually have important long-term consequences and frequently call into question the values and life priorities of those affected.

Baltes and his colleagues developed five criteria to describe wisdom-related knowledge (e.g., Baltes & Smith, 1990; Baltes & Staudinger, 2000). They formulated two basic criteria, that is, rich factual knowledge about human existence and rich procedural knowledge about ways of dealing with fundamental life problems. These criteria were considered basic because rich factual and procedural knowledge are characteristic of all types of expertise. Three meta-criteria are thought to be unique to wisdom because they describe the structure and content of knowledge specifically referring to fundamental life problems rather than other types of problems (e.g., chess, sports). One is lifespan contextualism, that is, an understanding of the many contexts of life, how they relate to each other and change over the lifespan. A second criterion is value relativism, that is, an acknowledgment of individual, social, and cultural differences in values and life priorities. A third criterion is the awareness and management of uncertainties of all life.

In the Berlin paradigm, wisdom-related knowledge has been assessed by instructing adults of different ages to think aloud about hypothetical problems that are presented in brief vignettes. For example, one vignette is “A 15-year-old girl wants to get married right away. What could one consider and do?” Trained raters evaluate the transcribed think-aloud protocols according to each of the five wisdom criteria by assigning each protocol five scores between 1 and 7, representing the degree to which the protocol matches the ideal definition of each criterion. For example, a response that considers a problem in isolation would receive a low score on the criterion lifespan contextualism, whereas a response that acknowledges the contextual embeddedness of a difficult life problem could receive a high score (Staudinger et al., 1994).

Mickler and Staudinger (2008) extended the Berlin paradigm, which focuses on general wisdom (i.e., wisdom as knowledge about difficult and uncertain problems in general), to include personal wisdom (i.e., wisdom as knowledge about the self). To assess personal wisdom, the authors asked participants how they see themselves as a friend (i.e., “please think aloud about yourself as a friend. What are your typical behaviors? How do you act in difficult situations? Can you think of examples? Can you think of reasons for your behavior? What are your strengths and weaknesses, what would you like to change?”). The think-aloud responses to these questions were rated in terms of the following five wisdom criteria: (a) rich self-knowledge, that is, deep insight into oneself and one’s own life; (b) heuristics of growth and self-regulation; (c) awareness of the contextual embeddedness of one’s own behavior, thoughts, and feelings; (d) self-relativism; and (e) awareness of ambiguity.

Sternberg introduced a wisdom model also in the tradition of cognitive psychology, but proceeds from his triarchic theory of intelligence. He considers tacit knowledge, a component of practical intelligence, as a core feature of wisdom. Tacit knowledge is action-oriented, helps individuals to achieve goals they personally value, and is acquired through learning from one’s own

experiences, not “vicariously” through reading books or through others’ instructions. Sternberg (1998) states that wisdom is involved when people apply their tacit knowledge to maximize a balance of various self-interests (intrapersonal) with other people’s interests (interpersonal) and aspects of the context in which they live (extrapersonal). Thus, what sets wisdom apart from practical intelligence is its orientation toward the common good, rather than individual well-being. Sternberg has developed open-ended tasks and coding schemes to operationalize his wisdom model. The tasks are complex conflict-resolution problems involving the formation of judgments, given multiple competing interests and no clear resolution of how these interests could be reconciled. Wisdom, assessed by these tasks, refers to a person’s ability to identify whose interests are at stake and the contextual factors under which one is operating (Sternberg, 1998).

Grossmann and colleagues (2010) introduced a wisdom paradigm focusing on knowledge about interpersonal and intergroup conflicts. In contrast to the content-poor and relatively abstract Berlin wisdom tasks, Grossmann developed more naturalistic and context-rich tasks that provide detailed information about the involved people, for example, their concerns, motives, and feelings. The interview itself also differs from the Berlin interview. Whereas the Berlin Paradigm has participants think aloud about the presented problem vignettes without further instruction (they basically engage in a monologue), here the participant responds to a series of relatively concrete questions. Grossmann and colleagues (2012) use six wisdom criteria: (a) perspective shifting, (b) recognition of the likelihood of change, (c) prediction flexibility, (d) search for conflict resolution, (e) search for compromise, and (f) recognition of uncertainty and the limits of knowledge.

Summary

The above description highlights that the different wisdom models in the cognitive tradition have much in common. Perhaps most important, all definitions emphasize the integrative na-

ture of wisdom-related thought and knowledge, and that this integrative nature can best be observed if individuals reason about existential problems with no easy solutions. There is also agreement that wisdom-related thinking is not value-neutral. This aspect is most clearly expressed in Sternberg's wisdom model, which assumes that wisdom is the application of knowledge in the service of the common good. Other models also include value orientations. According to the Berlin model, for example, advice is wise only if it takes into account the potentially very different value orientations of all individuals affected by a problem. Notably, however, the above approaches also differ in several respects such as the wisdom tasks, interview methods, and criteria. As will be evident, these differences can have implications for our understanding of age differences in wisdom.

Wisdom as a Mature Form of Personality

Definitions of wisdom in the tradition of personality research have proceeded from the idea that individuals express wisdom through their personality and, thus, researchers in this tradition have suggested to measure wisdom by the personality characteristics of wise individuals (e.g., Ardel, 2003; Webster, 2003; Wink & Helson, 1997). Similar to cognitive wisdom approaches, approaches to wisdom in the personality psychology tradition assume that wisdom manifests itself in excellent cognitive abilities; for example, the wise personality is assumed to be cognitively complex, clear-thinking, reflective, insightful, and objective (e.g., Wink & Helson, 1997). Researchers in this tradition, however, believe that the sole focus of cognitive wisdom approaches on the thought processes and bodies of knowledge typical of wisdom is too narrow, and are correspondingly interested in what other noncognitive qualities might be characteristic of wise people.

For example, Ardel (2003) considered the wise personality as a combination of three personality dimensions. A cognitive dimension, defined as an understanding of life and a desire to know the truth; a reflective dimension, defined as a willingness to take different perspectives on

issues and on oneself, and a compassionate dimension, defined as a caring concern for humanity. The inclusion of compassion is perhaps the greatest conceptual difference between Ardel's wisdom model and models in the cognitive tradition, given that the cognitive and reflective dimensions are also central elements of wisdom-related thinking and knowing (e.g., Baltes & Smith, 1990; Grossmann et al., 2010). Ardel (2003) presented a self-report measure, which includes several items for each of the three dimensions of her model.

In the same tradition, Webster (2003, 2007) suggested a wisdom model with five dimensions, namely, critical life experiences, willingness to reminisce and reflect, openness to experiences and ideas, emotion regulation capacity, and humor. Whereas the willingness to reminisce and reflect dimension is closely related to Ardel's reflectivity dimension, the remaining four dimensions show less overlap. Webster included the dimension "critical life experience" to emphasize that experience with problems that are difficult, morally challenging, and requiring (or perhaps enabling) some degree of profundity facilitates wisdom. He also states that openness to experiences is a necessary dimension because an openness to alternate views, information, and potential solution strategies facilitates the wise person's efforts to surmount obstacles efficiently. What particularly distinguishes Webster's wisdom model from Ardel's model is the inclusion of emotion regulation and humor dimensions. According to Webster, wise emotion regulation is to be able to identify, experience, and use a wide range positive and negative of emotions without being overwhelmed. Thus, he has a broad understanding of emotion regulation that includes related skills subsumed under the broader concept of emotional intelligence (e.g., Salovey et al., 2008). As to humor, Webster states that wise humor includes not taking oneself too seriously, developing an ironic stance toward life, using humor to put others at ease, and as a way to cope with stressors. His description of wise humor makes it clear that Webster sees a compassionate attitude toward others as typical of the wise personality, although he does include this aspect as a separate

dimension of wisdom, as does Ardelt. Webster (2003) also developed a self-report scale, which includes several items for each wisdom dimension in his model.

Summary

The description of the two exemplary approaches to the wise personality clarifies their similar emphasis on the multidimensional nature of wisdom and its integrative character. In addition, all definitions in this tradition highlight that wise persons reflect upon their experiences, have a desire to acquire a deep understanding of the self, others, and the world, and are compassionate toward other beings. Against this background, it is not surprising that wisdom scores assessed with different questionnaires are positively correlated at a level aggregated across dimensions. In addition, wisdom scores aggregated across dimensions largely show similar correlates such as self-efficacy, openness to new experiences, and empathy (e.g., Glück et al., 2013). Thus, for questions related to general wisdom, the various proposed wisdom models and questionnaires are likely to be similarly useful and recommendable. However, specific dimensions of wisdom may show different associations with external variables (e.g., Glück et al., 2013) and, important for present purposes, they may show different age trajectories.

Further Thoughts Regarding the Different Wisdom Models

Despite differences in the approaches to the conceptualization of wisdom in the traditions of cognitive psychology and personality psychology, there seems to be agreement that wisdom involves cognitive and reflective elements as well as a particular social orientation characterized by benevolence toward all living beings and thus an appreciation of differences in interests, value orientations, or life priorities. There is less agreement on the emotional elements of wisdom (e.g., Grossmann et al., 2020). However, experiencing emotions such as fear, despair, guilt, or sadness is part of human nature and often unavoidable when confronting existential life problems; thus, constructively working with emotions should be part of wisdom. Seen in this light, it is difficult

to imagine wise persons who are unable to regulate their emotions or to incorporate information inherent in emotions for their thought processes. More generally, a multidimensional concept of wisdom that includes cognitive, social, and emotional elements opens up the possibility of that different elements may develop in different ways and, thus, the question regarding age differences in wisdom becomes more nuanced.

Further Thoughts Regarding the Different Methods to Assess Wisdom

The diverse methodological approaches to measuring wisdom each have strengths and weaknesses. Self-reports of desirable traits such as wisdom are potentially subject to a range of biases. Some individuals might want to portray wisdom even if they do not have it. There may also be quite a few individuals unaware of how wise they are. Other individuals might consider it inappropriate to communicate that they believe they are good advisors, highly reflective, or emotionally competent. Reinforcing this concern is Meacham's (1990) conclusion that "the essence of wisdom is to hold the attitude that knowledge is fallible and to strive for a balance between knowing and doubting" (p. 181). Consistently, some humility and critical self-reflection seems to be typical of the wise personality (e.g., Grossmann et al., 2020). Thus, wise people likely underestimate their wisdom-related traits and people reporting that they are wise may not be so.

With respect to age differences, the important question is whether certain age groups are more or less susceptible to bias. For example, older adults generally tend to give more socially desirable responses compared to young adults (e.g., Hitchcott et al., 2020), so older adults' self-evaluations of wisdom, a socially desirable trait, may be positively biased. Furthermore, if older people believe in implicit theories that wisdom is a strength of old age (e.g., Heckhausen et al., 1989), this could cause similar overestimates. However, there is also evidence that older, as compared with younger, adults are generally more modest (e.g., Ashton & Lee, 2016), which could make them reluctant to describe themselves as wise even when they actually believe they are.

The question of age differences in the extent and direction of potential biases in wisdom self-attributions is therefore not easily answered.

Because performance-based paradigms do not assess individuals' beliefs about whether they possess wisdom-related traits, they arguably are less biased by introspective limits or impression management strategies. However, performance-based approaches also have their limitations. One potential problem is that they are often based on a few wisdom tasks with unknown relevance to the people and phenomena studied. Thus, questions as to their external validity arise. For example, do the tasks represent actual occurrences in the real world? What is the importance of the problems depicted in the tasks within the population of possible problems? Do people think and behave differently in their daily lives as compared with the laboratory? As to age differences in wisdom, important questions are whether the wisdom tasks are age-relevant and age-fair to all age groups included in a study. The same questions can be posed for the wisdom criteria as well as the interview method used (e.g., Thomas & Kunzmann, 2014).

In sum, in light of the different theoretical conceptualizations of wisdom as well as the individual strengths and weaknesses of each assessment method, it is advisable not to base knowledge about age differences in wisdom on only one wisdom model and assessment method. Findings are particularly trustworthy when they have been obtained with different methods and in the context of more than one wisdom model.

Age Differences in Wisdom

Many people, regardless of age, believe that wise people are typically old (Clayton & Birren 1980) and that wisdom is one of the few traits that are both typical of old age and desirable (Heckhausen et al. 1989). Consistent with such lay theories, prominent theorists such as Stanley Hall (1922) and Erik Ericson (1968) have suggested that wisdom is the endpoint of an ideal development. Both theorists assumed that wisdom is particularly likely to develop in old age, when

individuals can look back on a lifetime of experiences and - not least because of a growing awareness of the finitude of life - come to terms with the meaning of life in a holistic yet detached way. Thus, even though old age is accompanied by many losses and brings us closer to our own death, dealing with these very experiences can lead to deep insights and knowledge about the self and the world. For Erikson “wisdom is detached concern with life itself in the face of death itself” (Erikson, 1964, p. 133). For Hall (1912), it was important to emphasize that societies discriminating against older people - already the case in his time - overlook what older people offer society given their life experience and special position at the end of life. In his view, wisdom was manifested as deep insight and knowledge about fundamental questions of life.

As hopeful as these thoughts may be, the question arises as to how many people actually approach wisdom in old age. Hall and Erikson were themselves relatively old in their historical time when they theorized on this topic and perhaps had people like themselves in mind when considering wisdom as the ideal developmental endpoint. That is, privileged intellectuals with many resources who had many opportunities or people who strongly shaped their own development throughout their lives, fully exploiting their possibilities and facing new challenges lifelong.

The review of empirical studies below shows that not many people become wise in old age. Consistently, some researchers have argued that age is neither sufficient nor necessary for the development of wisdom (e.g., Staudinger & Glück, 2011). At the very least, it seems that many different factors contribute to whether wisdom increases, remains stable, or even decreases with age. Thus, the relationship between age and wisdom is truly complex.

Age Differences in Global Wisdom: Empirical Findings

Given the notion that wisdom might be one of the few gains of old age, results from the first empirical studies by Paul Baltes and his colleagues on the topic were sobering. Contrary to predictions that wisdom, as a form of pragmatic intelligence, might increase into old age (e.g.,

Baltes & Smith, 1990), age and wisdom were not significantly correlated in four cross-sectional studies using the Berlin wisdom paradigm, which the authors interpreted to mean that wisdom-related knowledge probably shows stability in the age range between 20 and 75 years (e.g., Staudinger, 1999).

Many studies from the personality research tradition also suggested negligible age differences in wisdom, at least in samples that cover adulthood from about age 20 to 75. For example, Glück and colleagues (2013) reported that the correlation between age and wisdom was not significant according to a questionnaire by Levenson et al. (2005; $r = 0.12$, $p = 0.14$), marginally positive according to the questionnaire by Webster (2003; $r = 0.15$, $p = 0.05$), and significantly negative according to the questionnaire by Ardelt (2003; $r = -0.17$, $p = 0.03$).

In sum, the studies described above suggest either no or very small age differences in global wisdom during adulthood. Nevertheless, the findings must be considered preliminary because most studies were cross-sectional. Cohort effects may have masked age-related gains. One might agree with Ardelt (2004), who wrote that wisdom, unlike many other traits or types of knowledge, probably has a long half-life and thus no birth cohort should be systematically disadvantaged. However, it is also possible that later-born cohorts are favored by societal changes toward greater tolerance, diversity, global connectedness, and mobility. These factors potentially make it easier for younger adults today to think freely and from different perspectives about important questions of dealing with and interpreting life and thus to gain wisdom-related insights.

Similarly important, further studies have broadened the focus on age differences in global wisdom during adulthood. These studies have (a) examined samples with a wider age range that included adolescents as well as old and very old individuals, (b) begun to examine potential pre-

ditors of individual and age-related differences in wisdom, (c) looked at specific wisdom dimensions rather than just global wisdom, and (d) investigated the role of situational contexts for age differences in wisdom. I will discuss these studies in the following subsections.

Linear and Nonlinear Age Differences in Wisdom

Some wisdom researchers have suggested that age may predict changes in wisdom in adolescence and old age, but not during the adult years. In both adolescence and old age, most individuals experience comparatively many and strong age-related cognitive, physical, and social changes that could be associated with normative wisdom gains in adolescence and normative wisdom losses in old and very old age. Consistently, according to a cross-sectional study with adolescents and young adults (Pasupathi et al., 2001), individual adolescents have considerable wisdom-related knowledge at the age of 14, but clearly show increases in wisdom until young adulthood (the correlation between age and wisdom was $r = .46$). Webster and colleagues showed that the effects of age are also stronger in old and very old age than during adulthood (Webster et al., 2014). In a sample of 512 adults aged 17 to 92 years ($M_{\text{age}} = 46$, $SD = 21$ years), the relationship between age and wisdom, using Webster's questionnaire, was quadratic. Younger and older adults scored lower on wisdom than middle-aged adults. Finally, Ardelt et al. (2018) reported partially consistent evidence from a study including 14,248 individuals between age 18 and 98 ($M_{\text{age}} = 36$, $SD = 13$ years). Wisdom, as measured by Ardelt's questionnaire, decreased within old age, starting at about age 60, but was relatively stable during young and middle adulthood.

In sum, within the limitations of cross-sectional designs, current evidence suggests that wisdom increases from adolescence to young adulthood, remains stable in middle adulthood and decreases in old age. However, it is not entirely clear at what age normative developmental gains in wisdom diminish or normative age-related losses in wisdom begin. To address this question, longitudinal studies are needed that ideally use more than one method to measure wisdom.

Predictors of Individual and Age-Related Differences in Wisdom

A second differentiation of the question whether wisdom remains stable with age is to assume that wisdom only increases with age among those who have particularly good opportunities to acquire wisdom, for example, through their education or profession.

Professional specialization. The Berlin group explored the idea that employment in certain professions promotes wisdom and argued that clinical psychologists could be particularly wise because they continuously deal with difficult life problems and care for people in need. Consistently, in one study, older clinical psychologists scored as high on the Berlin wisdom tasks as a group of similar aged eminent citizen nominated specifically for their wisdom. Both groups outperformed younger and older professionals not involved in human services (Baltes et al., 1995). Two other studies systematically varied chronological age (young vs. old) and occupational specialization (clinical psychologist vs. control professions; Smith et al., 1994; Staudinger et al., 1992). In both studies, the age groups did not differ in wisdom-related knowledge, but clinical psychologists performed better as compared to individuals with other professions. The authors had expected the older clinical psychologists to have the highest wisdom scores because of their lifetime of professional experience, but this was not found in either study.

The absence of the predicted interaction effect between age and profession could indicate that most adults with potentially wisdom-promoting occupations do not accumulate wisdom knowledge over their careers. However, the statistical power to detect interaction effects was limited due to the relatively small sample size of both studies. In addition, cohort effects may have masked experience-related advantages of older clinicians because clinical training has presumably improved over historical time, and those born later might generally have more access to wisdom-related knowledge than those born earlier. Finally, selection effects may have overridden

experience-related effects, because young people with high wisdom-related knowledge presumably have a particularly strong tendency to choose wisdom-relevant professions.

Therefore, one of the very few long-term longitudinal studies conducted by Helson and colleagues is of particular note (Wink & Helson, 1997). In a sample of college-educated women and their partners, the authors reported within-person changes in practical wisdom, whereby people with high practical wisdom were described as cognitively complex, clear-thinking, insightful, and objective, and at the same time having a special social orientation that manifests itself in empathy, understanding of others, and maturity in social relationships. Practical wisdom, assessed with a self-report measure developed specifically for the study, increased in middle adulthood over a period of more than two decades and significantly more so in a subsample of clinical psychologists than in participants who pursued other professions.

In sum, there is some evidence to suggest that the continuous confrontation with difficult life problems as part of one's professional career could have a beneficial effect on one's own wisdom development. What future studies would need to clarify, however, is how widely dispersed these effects are and which dimensions of wisdom are particularly developable.

Educational level. There is also evidence that education moderates the effects of age group on wisdom. More specifically, Ardel and colleagues (Ardelt et al., 2018) argued that highly educated people have been in learning contexts such as school and university for longer and may therefore be more open and motivated to learn in other life contexts as well. In addition, they are particularly likely to have occupations that offer variety and are complex and therefore more likely to reinforce and promote wisdom-conducive personality traits such as autonomy, openness to change, or self-determination. Ardel and colleagues examined these ideas in the aforementioned study with the very large sample heterogeneous not only in terms of participants' ages but also their educational backgrounds (Ardelt et al., 2018). As expected, among individuals

with low education, especially those with primary education, the relationship between age group and global wisdom was significant and negative. According to the analyses, in individuals with low education, wisdom begins to decline already in late middle adulthood. By contrast, for individuals with a college degree, age differences in global wisdom were not significantly positive, but maintained into old age.

The latter finding indicates that a constellation of favoring factors is probably needed to achieve age-related gains in wisdom; one factor alone, such as a good education, may not be sufficient. These favoring factors certainly include person-related characteristics that make it possible to benefit from external conditions and the experiences they provide in the first place.

Person-related characteristics. In both wisdom traditions, researchers have studied person-related characteristics as correlates of wisdom. A first factor is intelligence, although the relationship between intelligence and wisdom seems not to be linear, since people with high levels of wisdom are likely to be highly intelligent, whereas not many highly intelligent people are wise. In this sense, intelligence has been shown to be a necessary but not sufficient resource for high levels of wisdom (e.g., Glück & Scherpf, 2022). What needs to be added are certain ethical values such as an orientation toward the common good (Kunzmann & Baltes, 2003), personality traits, such as openness to new experiences (Staudinger et al., 1997), as well as social-emotional competencies (e.g., Glück et al., 2019; Webster et al., 2014). Finally, many wisdom researchers assume that a willingness to learn from experience is important for the development of wisdom (e.g., Ardelt, 2003; Webster, 2007). However, the question arises as to whether factors are antecedents or instead elements of wisdom. For example, openness to experience could be a correlate and an element of wisdom (e.g., Webster, 2007). The same problem applies to other person-related factors, and it is aggravated when wisdom researchers adopt a broad definition of wisdom, which does not limit wisdom to knowledge and judgment.

Despite these conceptual problems, there is consensus among wisdom researchers that age-related gains in wisdom are likely to occur only when a constellation of favorable factors take effect. Previous research has mostly been cross-sectional and has focused on the contribution of single factors to individual differences in wisdom. Thus, longitudinal studies that capture intra-individual changes in wisdom and examine the presumably complex interplay of wisdom-promoting resources in predicting within-person changes in wisdom would extend the current state of research in valuable ways. Longitudinal studies would also allow us to determine the extent to which wisdom-relevant contexts selectively appeal to people, who are wise, and the extent to which such contexts provide experiences that help people become wiser.

Multidirectional Age Differences in Wisdom

Many wisdom researchers agree that a person can only be called wise if he or she combines many different strengths - for example, knowledge and a deep understanding of life and human nature along with treating others with benevolence and regulating their emotions flexibly. At the same time, correlations among the different dimensions of wisdom are often only of moderate size and factor analytic work has supported the multidimensional structure of wisdom (e.g., Ardelt, 2003; Glück et al., 2013). This opens the possibility that different wisdom dimensions might develop differently. Critical for present purposes, there is evidence that the cognitive aspects of wisdom are more vulnerable to age-related decline than social and emotional aspects. For example, in the study conducted by Ardelt and colleagues reviewed above, the authors did not only examine wisdom as an aggregate measure but also three distinct facets of wisdom, as included in Ardelt's wisdom model. As predicted, the association between age and the cognitive wisdom dimension was negative within old age, suggesting decline, whereas the association between age and the two remaining dimensions, reflection and compassion, were positive, suggesting small albeit significant increases during old age. Similar evidence for multidirectional age

differences was reported by Glück and colleagues (Glück et al., 2013), in their sample of Austrian participants; the cognitive dimension of wisdom, as assessed with Ardelt's questionnaire, was negatively associated with age ($r = -.39, p < .001$), whereas the two other dimensions, compassion and reflectivity, were not significantly related to age.

The results for the cognitive facet of wisdom are surprising at least insofar as the studies using the Berlin wisdom paradigm suggest stability at least up to the seventh decade of life. One possible explanation for the contradictory results could be that the Berlin studies, advertised as studies of life knowledge, may have appealed to relatively educated and affluent individuals. The higher the educational level of the participants, the less likely age-related losses might be detectable in the cognitive wisdom dimensions. However, another explanation could be that older adults only believe that their thoughts are less wise than young adults' thoughts and thus score lower in wisdom questionnaires but similarly in performance-based tests.

Despite these unresolved issues, some of the current evidence is consistent with the idea of multidirectional age differences in the individual wisdom dimensions. The relatively small age differences in wisdom overall could be the result of contrasting developmental trajectories for the cognitive (vulnerable to decline) and social-emotional (potential for increase) dimensions.

The Cognitive Load of Wisdom Criteria and Age Differences in Wisdom

The next study is also consistent with the idea that the cognitive dimension of wisdom is vulnerable to age-related decline. More specifically, the goal was to test the idea that age-related stability or even increases in the cognitive dimension of wisdom are less likely the more cognitively demanding the criteria used to measure wisdom-related knowledge. The study focused on one core criterion of wisdom-related knowledge, recognition of different perspectives as a sample case, and how two different performance-based wisdom paradigms have this criterion further defined and assessed (Kunzmann, Nowak et al., 2017). In the Berlin wisdom model, recognition of

different perspectives has been called value relativism; it is defined as the ability to (a) distance oneself from one's own perspective and personal values, (b) recognize and understand other perspectives when reasoning about a problem, and (c) tailor advice to individual perspectives and values (e.g., Staudinger et al., 1994). Thus, high value relativism requires basic cognitive abilities such as inhibition, working memory, and logical reasoning. Profound personal experience with a problem at hand may not be sufficient to score high on value relativism.

Grossmann (2010, 2012) labelled recognition of different perspectives as perspective taking and differentiated three sub-dimensions. First, consideration of nonobvious perspectives (i.e., information that is not a salient feature of a problem and how it is presented); second, analysis of the problem from the viewpoints of the various people involved, and third, immersion of the self into the problem (Grossmann, 2012, p. 5). This last sub-dimension seems to be critical to the concept of perspective taking, given that Grossmann has considered it a sign of high perspective taking if people continuously use first person when thinking aloud about a problem at hand and think about how they themselves would act when placed in the situation (Grossmann, 2012, p. 73). Thus, perspective taking, as defined by Grossmann, does not necessarily require individuals to inhibit their own perspective, but rather can involve reference to one's own perspective and experience. It is arguably less dependent on basic cognitive functions and more reliant on one's own experiences with a problem at hand than value relativism.

Consistent with these ideas, value relativism, but not perspective taking, declined across age groups. The distinctness of value relativism and perspective taking was further corroborated by their differential associations with measures of cognitive functioning, which only predicted value relativism and not perspective taking. The pattern of findings was independent of whether the Berlin tasks and interview methods or those developed by Grossmann were used.

Notably, Grossmann and colleagues have presented two age-comparative studies of their own in which all six of their proposed wisdom criteria were measured using their performance-based paradigm outlined above (Grossmann et al., 2010). To date, these are the only studies in the cognitive wisdom tradition that have demonstrated an age-related increase in all wisdom criteria, that is, not just perspective taking. The authors themselves attribute their divergent results to the rich wisdom tasks and the interactive interview method. Based on the findings presented above, it might also be worthwhile to examine the exact definition and operationalization of the remaining wisdom criteria (not just perspective taking) and compare them to those of other paradigms. At any case, it is possible that the wisdom criteria established by Grossmann and colleagues are less demanding cognitively than the criteria of other wisdom models.

Multidirectional Age Differences in Other Domains of Functioning

Indirect evidence that social-emotional wisdom dimensions might show different age trajectories than the cognitive ones exists in related psychological research that has studied age differences in cognitive, emotional, and social competencies independently of the concept of wisdom. To begin, prominent theories on emotional aging suggest that emotional competencies, including the ability to regulate emotions, show stability if not growth well into old age, despite the losses in basic cognitive functioning (e.g., Carstensen, 2006; Charles, 2010). In her Socioemotional Selectivity Theory, Carstensen states that individuals become increasingly motivated in regulating their emotions to enhance their own and other individuals' well-being with age and the increasing awareness that their future lifetime is limited (e.g., Carstensen, 2006). This enhanced motivation to work with one's emotions is likely to result in the accumulation of expertise over the adult years and, thus, continued improvement of one's social and emotional life. Only in very old age, roughly beginning at age 80, are vulnerabilities related to health-related and cognitive losses posited to reduce well-being as Charles states in her Strength and Vulnerability Integration

model (SAVI, Charles, 2010). This idea is consistent with empirical research focusing on old and very old individuals that has found uniform declines across cognitive and emotional abilities (e.g., Kunzmann et al., 2022). Thus, except for very old age and the five to ten years before the end of life (Gerstorf et al., 2013), social and emotional competencies seem to remain stable or even increase with age (e.g., Scheibe & Carstensen, 2010). The evidence for age differences in cognitive abilities is much less positive. Even if age-related losses are stronger for basic cognitive abilities such as reasoning or processing speed (e.g., Salthouse, 2009), pragmatic cognitive abilities, such as the ability to infer other people's thoughts and emotions correctly, are also susceptible to age-related losses, especially if they occur in unfamiliar or otherwise challenging problem contexts (Hess, 2014). Seen in this light, the expectation that the various wisdom dimensions do not develop uniformly is obvious.

The Age-Relevance of the Wisdom Task and Age Differences in Wisdom

Contributing to a comprehensive understanding of age differences in wisdom, particularly cognitive dimensions, is research that has examined the extent to which age differences in wisdom-related knowledge and judgment are determined by the wisdom tasks used to measure wisdom. Consistent with the aforementioned research (e.g., Hess, 2014), wisdom researchers have assumed that older adults, in particular, might benefit from familiar task content given their relatively limited cognitive resources. In addition, there is the consideration that older adults become increasingly selective in how they allocate their already scarce resources and are more likely to question whether it is worth the effort to allocate a resource compared to young adults. Older adults' motivation to exert effort on a wisdom task should therefore depend much more on whether the task is personally relevant than it does for young adults.

To examine these ideas, Staudinger and colleagues (1992) presented younger and older adults with a life review problem that differed solely by the age of the protagonist and predicted

that particularly older adults should benefit if the problem involved a person of their age. However, possibly due to the very small sample, only one of the five wisdom criteria (factual knowledge) showed a corresponding interaction effect. In a second study of this working group, Smith and colleagues (1994) presented to younger and older adults two life planning tasks that were either relevant and familiar to younger or older adults. The predicted interaction effect was again limited to one criterion (procedural knowledge) and only for a subgroup of participants (i.e., younger and older clinical psychologists). Thus, arguably due to limited statistical power, these two studies provided limited evidence for the idea that age differences in wisdom-related knowledge are dependent on the age relevance and familiarity of the wisdom problem.

A study from my own laboratory therefore re-examined these ideas in a larger sample of adults of different ages who completed two different types of wisdom tasks (Thomas & Kunzmann, 2014). One task addressed an issue that older individuals typically rarely experience or even actively avoid, namely partnership conflict (e.g., Luong et al., 2011). Another task not particularly self-relevant to any age group was taken from the Berlin wisdom paradigm, the suicide task (somebody receives a phone call from a good friend. The friend says that she or he cannot go on anymore and that she or he has decided to commit suicide. What could one/ the person consider and do?). Consistent with past evidence with age-neutral tasks, there were no significant age difference in the suicide task. However, older, as compared with younger, adults had less wisdom-related knowledge about partnership conflict. In addition, the obtained effect of age on wisdom-related knowledge about partnership problems was mediated by older adults' lower appreciation of such problems as a source of insight.

Mickler and Staudinger (2008) reported similar findings from a study in which younger and older participants were asked to think aloud about themselves as a friend (e.g., how they act in difficult situations). The second task was again the suicide task. As expected, there were no

significant age group differences in wisdom-related knowledge about the suicide problem, however, older, as compared with younger, participants' wisdom-related knowledge about the friendship problem was significantly lower. This pattern of findings makes sense in light of empirical and theoretical research in the area of socioemotional aging to the extent that older adults strategically shrink their social network and engage less frequently and intensively with friendships (especially with high-conflict friendships) and focus instead on **very few close**, often familial, relationships (e.g., Carstensen, 2006). Thus, the friendship task may have been less relevant and familiar to older adults than to younger adults.

In sum, the studies discussed above suggest that wisdom-related knowledge might be partially situation- and task-specific and that the application of this knowledge to different problem contents does not seem to succeed automatically. Relevance and familiarity with a task is likely to affect age differences in wisdom although they may not be the only crucial variables. For example, Mickler and Staudinger (2008) suggested that knowledge about oneself (e.g. how one sees oneself in the role of a friend) might be more positively colored and, thus, undifferentiated in old age than knowledge in general (e.g. what one knows about suicide).

Age Differences in Wisdom: A New Theoretical Model

The theoretical model presented in Figure 1 represents a synthesis of previous empirical findings and theoretical considerations on age differences in wisdom. I hope that this model will stimulate new research and be modified and refined as scientific knowledge advances (Charles & Mikels, in this volume). Importantly, the model is not intended to comprehensively describe all factors responsible for the development of wisdom. Baltes and colleagues have already presented a very useful model for this purpose (e.g., Baltes & Smith, 1990; Staudinger, 1999). In addition, Glück has presented a very informative model that elaborated five person-related factors - mastery, openness to experiences, reflectivity, empathy, and emotion regulation - as resources for the

development of wisdom (e.g., Glück et al., 2019). Complementing these models, and consistent with the theme of this chapter, the model presented here focuses on chronological age and its effects on wisdom. Inner and outer resources mediate and moderate these age effects by affecting the way individuals plan, conduct, and evaluate their lives.

Wisdom as a Three-Dimensional Construct

I begin to describe the model with a discussion of the proposed three-dimensional wisdom concept (see Figure 1, Box C). Three preliminary remarks may be helpful. First, the diversity of models to define a competence is not unique to wisdom research, but is also found in other areas of research (e.g., Sternberg et al., 2003). As here, I believe that the goal cannot be to identify the one model that is most useful for all research questions. Rather, existing models are useful for different questions. For questions related to age-related changes in wisdom, I believe a distinction should be made between cognitive and social-emotional dimensions of wisdom, based on previous research suggesting different age gradients for these dimensions. Since the methods used so far to measure wisdom all have their strengths and weaknesses, I propose to take a multimethod approach and measure all wisdom dimensions with more than one method.

Second, wisdom is a human strength that is especially needed when confronted with existential issues of life and not necessarily when dealing with less complex or simpler everyday problems. Seen in this light, it is not the integration of cognitive, social, and emotional strengths per se that constitutes wisdom, but the integration of these elements when dealing with existential problems, or the ability to use these strengths in difficult and complex situations in such a way that they complement and enhance each other. This must be kept in mind when empirically assessing wisdom with global self-report questionnaires that assess wisdom-related traits without reference to situational contexts (e.g., Ardelt, 2003). It certainly is much more difficult to behave wisely in existential situations than in everyday situations.

Third, I do not think that the distinction made by some wisdom researchers between wisdom that relates to oneself and wisdom that relates to the world is meaningful in all respects (e.g., Mickler & Staudinger, 2008). Since wisdom by definition implies a very high degree of integration and overcoming of dichotomies (e.g., Labouvie-Vief, 1990), a split between the self and the other, a failure to know oneself and not be one with the world, would contradict a basic principle of wisdom. Prototypically and in its higher form, wisdom encompasses self, other, and world. It includes, for example, the insight that there can be no true compassion for others without self-compassion, that wise knowledge of the world always includes knowledge of the self in the world, or that a deep understanding of emotions and motives is facilitated if one has already experienced them oneself or is familiar with them.

The cognitive dimension of wisdom. As reviewed above, there seems to be a consensus among wisdom researchers that a psychological wisdom model must include a cognitive dimension that refers to excellent knowledge and judgment in dealing with existential life problems (e.g., Grossmann et al., 2020). A prerequisite for this kind of knowledge and judgment is the willingness and ability to engage in reflective thinking, for example, by considering phenomena from different perspectives, being aware of the contextual boundedness of knowledge, and taking into account the limits of knowledge. In this sense, the cognitive wisdom dimension encompasses thinking as a process and an outcome (e.g., Ardelt, 2003; Grossmann et al., 2020).

Whether age differences in the cognitive dimension of wisdom depend on the assessment method (e.g., self-reports or performance-based tests) or differ for different sub-dimensions should be investigated more systematically than in the past in future longitudinal and multi-method studies. With few exceptions (e.g., Grossmann et al., 2010), however, most studies presented to date suggest that, independently of the method of assessment, the cognitive facets of

wisdom are stable at best in adulthood and decline within old and very old age (e.g., Ardelt et al., 2018; Glück et al., 2013; Staudinger, 1999).

The social dimension of wisdom. Whereas psychological definitions of wisdom typically contain a cognitive dimension, there is less consensus concerning the noncognitive dimensions. Among researchers in the personality tradition, perhaps the most common consensus is that wisdom entails a compassionate and benevolent attitude towards others (e.g., Ardelt, 2003; Webster, 2007; Wink & Helson, 1997). Similarly, wisdom researchers in the cognitive tradition have argued that wisdom is incompatible with a one-sided focus on self-related interests. However, according to these researchers, wisdom would also not be associated with a one-sided focus on other peoples' interests; rather, it is the balancing of the interests of all individuals involved in a problem that Sternberg and others have thought to be characteristic of wisdom (e.g., Sternberg, 1998S). Seen in this light, while the wise personality has much compassion with others and behaves very pro-socially, it nevertheless does not lose sight of its own well-being. Moreover, a wise counselor would not only approach all parties involved in a problem with the same compassionate attitude, but he or she would then find an approach to a solution that people even with opposing interests would recognize as useful. On closer examination, then, the social orientation associated with wisdom is relatively complex and should not be defined and measured merely as the extent to which one generally feels compassion for others.

To date, relatively few studies have examined age differences in the social orientation typical of wisdom. The few studies that do exist have used trait questionnaires to measure general propensity for prosocial behavior or compassion for others, and these studies suggest age-related gains, at least into young old age (e.g., Ardelt et al., 2018; Helson & Wink, 1997). Work from other research areas unrelated to wisdom also suggests that compassion and sharing other's feelings are among the strengths of older adults (e.g., Wieck & Kunzmann, 2015).

The emotional dimension of wisdom. The question of whether wisdom also includes an emotional dimension is perhaps most controversial (e.g., Kunzmann, 2022), and many wisdom researchers do not seem to consider the possibility of such a dimension (e.g., Grossmann et al., 2020). However, situations in which wisdom manifests itself are typically highly emotional and elicit a broad array of negative emotions, including guilt, shame, anger, fear, or sadness (e.g., the sudden death of loved ones, life-threatening diseases, wrong life decisions, serious conflicts). How do wise individuals experience such problems emotionally? Are they emotionally receptive and sensitive when dealing with existential problems? Can they accept or yet tolerate strong emotions? How do they regulate their emotions so that they do not get out of hand or even become chronic? These questions make evident that the emotional component of wisdom cannot be reduced to knowledge about emotions, including their causes and consequences or ways in which they inform cognitive processes. These aspects are rather elements of the cognitive wisdom dimension, given that wisdom-related knowledge refers to human nature and, thus, includes insight about emotions. The emotional component is more concerned with emotions per se and ways to regulate one's own and other emotions in the face of fundamental life issues. To this end, there are various specific strategies of emotion regulation (e.g., to think about the problem in a detached, accepting, or positive manner or to distract oneself from the problem and think about unrelated issues, e.g., Gross, 2015). However, just as it does not seem possible to specify for individual strategies whether they are generally adaptive or functional (e.g., Aldao et al., 2015), it is probably not reasonable to label individual strategies of emotion regulation as wise and others as unwise. It certainly depends on the characteristics of the situation as well as the goals and resources of the persons involved in a problem which strategy comes close to wisdom. Thus, what seems to be more important and, at the same time, typical of the wise person might be the ability to use emotion regulation strategies flexibly, and to match them well with one's own and others'

goals and resources as well as with the requirements of the situation in which emotions are experienced and regulated. For this reason, I would refrain from defining certain strategies of emotion regulation as wise.

Probably, however, wise individuals ultimately strive for an equilibrium in emotional experience, so that, overall and when seen over longer timespans, emotions are neither permanently excessively unpleasant nor permanently excessively pleasant. How such an emotional equilibrium can be achieved or maintained in the best possible way, and whether it is not even necessary for this purpose to occasionally allow strong emotions if they are appropriate to the situation or helpful for the achievement of personal goals, is an exciting question for future research.

As to age differences in wise emotion regulation, there are also many exciting questions. Similar to the social dimension, based on theoretical and empirical findings in social-emotional aging research (e.g., Carstensen, 2006), one would generally assume age-related stability or gains at least within adulthood and young old age. However, to my knowledge, age-comparative studies that have addressed the flexibility in the use of emotion regulation strategies in dealing with fundamental life problems with the longer-term goal of reaching emotional balance are pending.

As highlighted by the blue arrows in Figure 1, Box C, the three wisdom dimensions **can** mutually reinforce each other. For example, if individuals, who are asked for advice, cannot not regulate their own negative emotions in the face of a difficult life problem, they most likely will have difficulty to focus on the advice-seeking persons and to meet them with compassion. A wise person will not only flexibly regulate his or her own feelings, but also the feelings of those interacting with him or her, and do so in a compassionate way that has the well-being of others in mind. The ability to think clearly and consider a problem from many different perspectives will

certainly help to down-regulate negative emotions elicited by a problem to not become overwhelmed by the problem and capable of acting. These three examples make evident that it is only if a person scores high on all three dimensions that one would call this person truly wise.

Inner and Outer Resources

As reviewed above, the factors that are critical to age-related changes in wisdom in past research have been classified as personal characteristics or inner resources on the one hand and contextual characteristics or outer resources on the other hand (see Box D in Figure 1). These two types of factors can of course mutually influence each other and their effects on individual and age-related differences in wisdom may or may not interact in a complex ways (the blue arrows in Box D illustrate the possible interplay between inner and outer resources).

To the extent that inner and outer resources change with advancing age, they could serve as mediators and explain age-related changes in wisdom (see Arrow 1 in Figure 1). It is conceivable, for example, that an age-related decline in basic cognitive resources such as processing speed or logical thinking could partly explain a decrease in wisdom-related knowledge in old and very old age. Fluid cognitive abilities, or the decline in such abilities, probably play a lesser role for age differences in the social and emotional wisdom dimensions, which have been shown to not show age-associated losses and in some studies even slight increases with age (e.g., Ardelt et al., 2018; Glück et al., 2013). Personality changes such as the well-documented age-related increase in agreeableness (e.g., McCrae et al., 1999) or age-related changes in the motivation to contribute to emotionally nurturing social relationships (e.g., Carstensen, 2006) may be important drivers of age-related gains in the social and emotional aspects of wisdom.

In general, a multidimensional conception of wisdom should prompt reflection on whether the individual dimensions also develop differently during adulthood and old age and which presumably different factors (in terms of inner and outer resources) might be responsible for these

multidirectional age changes. Even if the above examples referred to factors within the person, contextual factors are of course also conceivable, which could have a differential effect on individual and age-related differences in the individual wisdom dimensions.

To the extent that inner and outer resources are unrelated to age, they may best be characterized as moderators of the effects of age on wisdom (see Arrow 2 in Figure 1). For example, and as reviewed above, education seems to be a moderator of age differences, particularly in the cognitive dimensions of wisdom because highly educated individuals seem to experience little or no loss in wisdom-related knowledge during old age, whereas individuals with low education may experience significant and substantial decline in this wisdom dimension (Ardelt et al., 2018). More generally, the study of moderators helps to better understand which individuals might achieve relatively high levels of wisdom over the course of their lives under which conditions and which individuals under which conditions should expect to experience age-related losses in at least some aspects of wisdom. Again, it will be important to consider the interplay of inner and outer resources, as well as the possibility that there might be different moderators for different wisdom dimensions.

The Role of Life Planning, Management, and Review

Most wisdom researchers agree that it is difficult, if not impossible, to acquire wisdom solely through vicarious experience or direct instruction, for example, by reading books or being told how to behave in certain situations in order to be wise (e.g., Ardelt, 2004; Glück et al., 2019; Staudinger & Glück, 2011; Sternberg, 1998). According to most wisdom researchers, it might be possible to obtain some level of wisdom through indirect experiences, but higher levels of wisdom can only be acquired by exposing oneself to certain experiences and also by processing these experiences oneself, trying to understand their meaning, reflecting on them, classifying them from different perspectives and thus learning from them. To avoid misunderstandings, this is in

no way to deny the importance of mentors who accompany such processes. It is also clear that what is gained from experience with a particular subject can be generalized or applied to other subjects and areas of life; and there are also vicarious experiences that are very close to direct experiences, for example, if one closely accompanies a person in need. What is important, however, is that the acquisition of wisdom is an active, resource-demanding, and sometimes arduous process that requires personal initiative and responsibility (e.g., Staudinger & Kunzmann, 2005).

In this sense, neither age nor other factors within the individual or their environment can directly lead to a higher degree of wisdom. Rather, what is critical to the development of wisdom is how people plan, conduct, and evaluate their lives (see Box B and Arrow 3 in Figure 1). Our behavior, what we make of our life can make us more or less wise. As the dashed arrows show, there are reciprocal effects, because the wisdom gained from life experience affects how we plan, lead, and evaluate the rest of our lives, and it also increases our inner and outer resources. Put somewhat differently, wisdom results from reflection upon personal experiences, and it influences what experiences we make and how we reflect upon them.

Future Research

Psychologists who study wisdom usually encounter the question of how it develops and whether it is an attribute of older persons and, as this chapter should make clear, there are already very promising studies and findings. Three exciting directions for future research are discussed in the following. First, it would be informative to expand the paradigms that ask people to reason about hypothetical text vignettes as employed in the performance-based wisdom measurement tradition. One could show participants emotional film clips of people dealing with existential problems, ask participants to relive and reflect on own life problems, or have partners engage in actual conversations about mutual conflicts or individual problems. Such paradigms are especially appropriate when wisdom is defined as the excellent integration of cognitive, emotional,

and social strengths, because they allow measuring not only how people think about difficult problems, but also how they react emotionally and socially to their own and other's problems.

A second direction for future research is to assess wisdom in using diary and experience sampling studies (e.g., Grossmann, 2017a). On the one hand, the thoughts, emotions, and actions of individuals who have achieved higher levels of wisdom are likely to be very balanced, stable, and not much shaped by momentary impulses. On the other hand, wise people have been described as being flexible so that their reactions might vary depending on the specific circumstances of the situation. Adopting a context- and time-sensitive approach to the assessment of wisdom in age-comparative studies would also raise new questions. For example, older people might show their wisdom differently in daily life than young adults and, given their relatively limited cognitive resources, their performance might generally be more context-dependent.

A third direction for future research is the development and validation of wisdom-based interventions. So far, most research has focused on teaching wisdom in educational settings (e.g., Ferrari et al., 2020; Sternberg, 2001). Wisdom interventions that seek to promote wisdom in samples of adults of different ages outside of formal teaching have yet to be developed. Encouragingly, several laboratory studies have shown that wisdom-related thinking can be increased by simple means, such as asking participants to put themselves in certain roles while thinking about wisdom problems (e.g., Grossmann, 2017b). Staudinger and Baltes (1995) have shown that wisdom-related reasoning, particularly among older people, can be enhanced if they talk about a wisdom problem with a familiar person before responding individually. There is also evidence for the effectiveness of interventions to promote competencies related to wisdom, such as mindfulness-based (self-) compassion or flexible emotion regulation (e.g., Berking & Lukas, 2015; Neff, 2023). Thus, there are some very good starting points for developing interventions to promote a wise approach to complex life problems that holistically bring cognitive, emotional, and social

strengths to flourish. I hypothesize, following Staudinger and Baltes (1995), that such interventions might be beneficial for adults of any age – perhaps even especially in old age.

General Conclusions

The fascination that wisdom exerts on many people certainly has to do with the fact that wisdom promises a solution to the most difficult, seemingly unsolvable problems that affect individuals but also humanity in general, such as wars that threaten world peace or the climate crises (e.g., Sternberg et al., 2019). It is precisely because wisdom involves a holistic and integrative view of problem constellations, keeping everyone's interests in mind and promising a philanthropic attitude that its cultivation has been thought to be important for both the individual and society (e.g., Kunzmann & Baltes, 2003). According to the current state of research, however, most people do not become wise in the true sense of the word even after a long life with many experiences. Yet, a nuanced view on age differences in wisdom offers a positive outlook. Inner and outer resources seem to affect the way individuals conduct and interpret their lives, and can lead some individuals to behave wisely in some respects, at least in some situations. Thus, as Vaillant eloquently put it “to be wise about wisdom we need to accept that wisdom does – and wisdom does not – increase with age” (Vaillant, 2002, p. 256). Had Vaillant already had access to the findings on age-related losses in the cognitive wisdom dimensions, he might have made his statement even broader, writing, to be wise about wisdom we need to accept that wisdom does – and wisdom does not – change with age.

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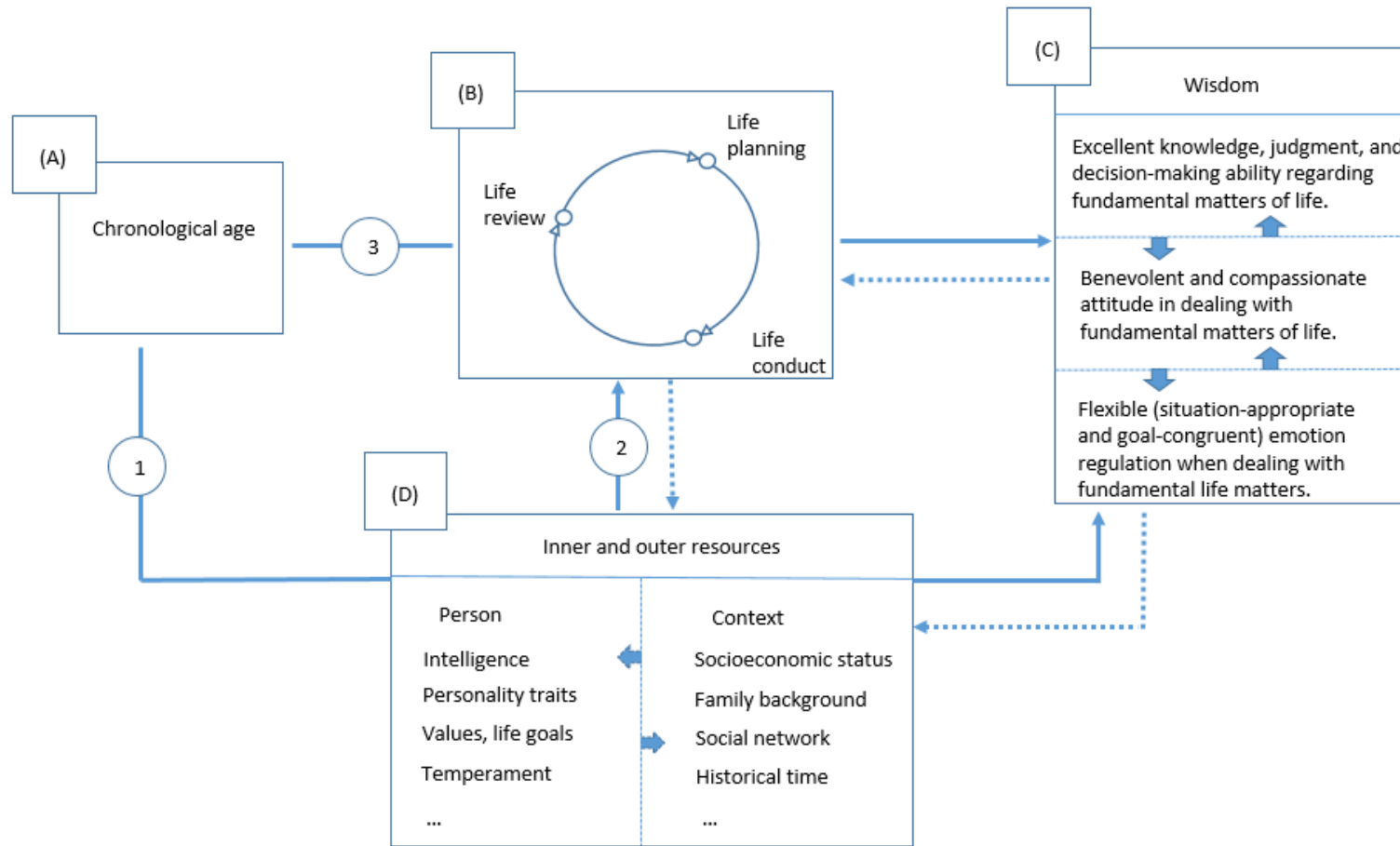
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Figure 1

Age and Wisdom: A Theoretical Working Model



Notes. The solid arrows refer to the effects of chronological age on wisdom mediated by the way people plan, conduct, and evaluate their lives. Inner and outer resources serve as further mediators and moderators of age effects. The dashed arrows illustrate that all variables except chronological age mutually influence each other (see the main text for more detailed discussion). All three wisdom dimensions, and thus wisdom-related knowledge as well as benevolence/compassion and emotion regulation typical of wisdom, include and refer to the self and all others.