
Wisdom-Related Knowledge: Affective, Motivational, and Interpersonal Correlates

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This study investigated the connection between wisdom as a body of expert knowledge about the meaning and conduct of life and indicators of affective, motivational, and interpersonal functioning. Structural equation analyses showed that individuals higher on wisdom-related knowledge reported (a) higher affective involvement combined with lower negative and pleasant feelings, (b) a value orientation that focused conjointly on other-enhancing values and personal growth combined with a lesser tendency toward values revolving around a pleasurable life, and (c) a preference for cooperative conflict management strategies combined with a lower tendency to adopt submissive, avoidant, or dominant strategies. These findings corroborate the theoretical notion that wisdom involves affective modulation and complexity rather than the predominant seeking of pleasure and also a joint motivational commitment to developing the potential of oneself and that of others.

Keywords: *wisdom-related knowledge; affect; value orientation; conflict management*

Philosophers and psychologists have viewed wisdom as a resource that facilitates a good life on both an individual and a group level (e.g., Assmann, 1994; Baltes & Staudinger, 2000; Kramer, 2000; Sternberg, 1998). Although wisdom and a good life have been linked throughout history, empirical research concerned with this topic is sparse. This lack of investigation is probably due to the difficulties inherent in the empirical assessment of wisdom. The goal of the present study, which was based on an empirical paradigm to assess wisdom as a body of knowledge about life meaning and conduct, was to provide evidence for links between wisdom-related knowledge and psychological functioning in three realms: affect (subjectively experienced feelings), motivation (value orientations), and social relationships (preferred strategies of conflict management).

This research is an extension of our previous construct-validation work examining person characteristics as correlates of wisdom-related knowledge. In past work, people with higher levels of person attributes such as openness to experience, psychological-mindedness, and creativity were found to have higher levels of wisdom-related knowledge (Staudinger, Lopez, & Baltes, 1997). By highlighting the role of wisdom-related knowledge in affective experiences, value orientations, and the preference for certain conflict management strategies, we aimed to broaden our understanding of the concept of wisdom and the behavioral sphere in which it is embedded.

*A Psychological Approach to Wisdom:
The Berlin Wisdom Model*

The enormous cultural and historical heritage of wisdom makes a comprehensive psychological definition and operationalization of this concept difficult. During the past decade, however, several psychological models of wisdom have been proposed that seem to hold promise (e.g., Kramer, 2000; Sternberg, 1990b, 1998). Despite this trend, wisdom research continues to be more theoretical than empirical. One exception is the line of inquiry that we have pursued (Baltes & Staudinger, 2000).

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We have proceeded from the theoretical definition of wisdom as an “expert knowledge system in the fundamental pragmatics of life” (e.g., Baltes & Smith, 1990; Baltes & Staudinger, 2000). The term *fundamental pragmatics of life* refers to knowledge about important, difficult, and uncertain aspects of life meaning and conduct and includes knowledge about life planning (e.g., which goals should we pursue in what situation), life management (e.g., how can we deal with social problems such as suicide), and life review (e.g., how can we best make sense of our life). Wisdom involves both general knowledge about human nature that transcends a given cultural context and historical period and more specific knowledge about variations in the meaning and conduct of life.

On the basis of this theoretical definition of wisdom, we developed an empirical paradigm to assess wisdom-related knowledge (Baltes & Smith, 1990; Baltes & Staudinger, 2000; Smith & Baltes, 1990; Staudinger & Baltes, 1996). Participants read short vignettes about difficult and uncertain life problems and think aloud about these problems. Trained raters evaluate the participants’ transcribed responses by using five criteria that, according to our theory, indicate wisdom-related knowledge, namely, (a) rich factual knowledge in the fundamental pragmatics of life, (b) rich procedural knowledge in the fundamental pragmatics of life, (c) lifespan contextualism, (d) value relativism and tolerance, and (e) awareness and management of uncertainty. Past empirical research has shown that the assessment of wisdom-related knowledge on the basis of these five criteria exhibits satisfactory reliability and validity (Baltes & Staudinger, 2000).

As we have emphasized in our past research (e.g., Baltes & Smith, 1990; Baltes & Staudinger, 2000), neither our theoretical nor our empirical definition is meant to capture the entire meaning space of the concept of wisdom. On the contrary, we have decided to focus initially only on the knowledge components of wisdom. In this vein, we defined wisdom as knowledge about the meaning and conduct of life. Defining wisdom as knowledge signals that the Berlin group’s past research focus was not on characterizing wise persons but rather wisdom per se, which is not necessarily a property of individuals but also can be found in cultural products (e.g., religious or legal texts).

Our goal in the present study expands on this knowledge-based approach. The added focus is on exploring affective, motivational, and interpersonal characteristics of people who vary in their level of wisdom-related knowledge. This endeavor can be seen as a very first step in broadening our definition of wisdom as knowledge to also include other human strengths. In principle, it is in part an open question as to whether these additional human strengths are constituents, correlates, or conse-

quences of wisdom. In this first study, our primary strategy was to follow a mixture of deductive and inductive reasoning involving a limited set of constructs that we consider relevant for testing the scope of our knowledge-based definition of wisdom.

Wisdom-Related Knowledge and Affective Experiences

The first realm of psychological functioning that we consider important for a theory-guided explication of the wisdom concept is affect. Wisdom and affective experiences have been linked in implicit and explicit psychological theories on wisdom but it remains unclear just how these two concepts are connected to one another (e.g., Kramer, 2000; Kunzmann & Baltes, 2003; Labouvie-Vief, 1990). Do people with higher levels of wisdom-related knowledge experience fewer negative feelings and more positive ones than do people with lower levels of such knowledge? Do wiser persons experience fewer and milder forms of any feeling, be they positive or negative? Or could it even be that people higher on wisdom-related knowledge experience negative feelings relatively often, given their awareness of the complexities of life and their concern with difficult human problems?

In this study, to begin to address the presumably complex relationships between wisdom-related knowledge and affective experiences, we distinguished three subdimensions of affect. The first was negative affect (e.g., angry, sad, disappointed); the second and third were two different aspects of positive affectivity: pleasant affect (e.g., happy, cheerful, proud) and affective involvement (e.g., interested, attentive, inspired). As a first step, we chose a measurement approach that was domain-general and time-enduring, that is, we investigated affective experiences from a dispositional rather than a contextual or statelike perspective. Past work concerned with the structure of affect or mood has focused on two of the present dimensions, negative and positive affect (Diener & Larsen, 1993; Kunzmann, Little, & Smith, 2000), but there also has been some indication that positive affect can be further broken down into pleasant feelings and feelings of mere involvement (e.g., Carstensen, Pasupathi, Mayr, & Nesselrode, 2000; Watson & Tellegen, 1985).

As to the link between wisdom-related knowledge and affective experiences, our general prediction was that wisdom involves balance and, at the same time, reflectivity (e.g., Baltes & Staudinger, 2000; Hartshorne, 1987; Kunzmann & Baltes, 2003; Sternberg, 1998). It is therefore unlikely that wisdom-related knowledge relates to extreme affective experiences or to a one-sided concern with certain feelings—be they positive or negative. Our more specific predictions were developed within this overall frame.

Wisdom-related knowledge and negative affect. Wisdom, as we have defined it, is an expert knowledge system about how one can interpret and deal with difficult life problems that often evoke negative feelings. Given their expertise in dealing with difficult life problems, people with higher levels of wisdom-related knowledge should be cognizant of negative affective experiences but be able to deal with negative feelings so as to not let them become chronic and dysfunctional. Seen in this light, people with higher levels of wisdom-related knowledge can be expected to report experiencing fewer personally distressing negative feelings in everyday life, despite their concern with serious problems and awareness of the gain-loss dynamic inherent in any life event.

Wisdom-related knowledge and two dimensions of positive affect. What about the associations between wisdom-related knowledge and positive feelings? Two principles have been thought to underlie people's attempts at regulating positive affect: the "pleasure principle" (i.e., self-centered motivation to maximize pleasantness and comfort) and the "reality principle" (i.e., environment-centered motivation for exploration and complexity). Ideally, these two principles can be integrated; in everyday life, however, this integration often may be impossible (e.g., Labouvie-Vief & Medler, 2002; Labouvie-Vief & Diehl, 2000). We expected that persons with high levels of wisdom-related knowledge have a tendency to assign primary significance to one of these two principles, namely, the reality principle.

The first dimension of positive affect considered was affective involvement. Wisdom-related knowledge is thought to involve a high degree of openness to various aspects of reality and, therefore, complexity. People higher on this type of knowledge can be expected to be motivated to understand the paradoxical nature of life, they view events and experiences from multiple perspectives, and they simultaneously consider the gains and losses inherent in any developmental transition (Baltes, 1987; Kramer, 2000; Labouvie-Vief, 1990; Staudinger, 1999; Sternberg, 1990a). Consistent with this view, past empirical research has shown that people with relatively high levels of wisdom-related knowledge reported being open to new experiences and interested in the deeper meanings of psychological phenomena (Staudinger et al., 1997; Wink & Helson, 1997). On the basis of this evidence, we predicted that wisdom-related knowledge would be positively associated with high affective involvement, as indicated, for example, by the frequent experiencing of feelings such as interest, activation, or inspiration.

We considered pleasant affect as a second dimension of positive affective experiences. Here, our prediction was different. Although people with higher levels of wisdom-related knowledge should experience feelings

of involvement more frequently—given that this type of positive affect is linked to actions that are typical for people high on wisdom-related knowledge (e.g., exploration and making sense of one's environment) (see Fredrickson, 1998)—it is unlikely that wiser persons have an abundance of pleasant feelings. This type of positive affect is typically not accompanied by specific development-oriented actions or insights into the meaning and conduct of life. Rather, a dominant concern with pleasant affect results from favorable self-evaluations or a passive and effortless seeking of joy and pleasure. People higher on wisdom-related knowledge should therefore experience pleasant feelings less frequently in everyday life than people with lower levels of wisdom-related knowledge.

Wisdom-Related Knowledge and Value Orientations

Our conception of wisdom suggests that individuals with high versus low levels of wisdom-related knowledge will express preferences for different profiles of value orientations. Values are often defined as generalized beliefs as to which modes of conduct or end states are desirable (e.g., Rokeach, 1973). Several taxonomies have been posited that organize the multiple values that people can hold into broader categories. For example, on the most general level of description, Rokeach (1973) distinguished between instrumental versus terminal values and Schwartz (1992) proposed that values can be described by two bipolar dimensions: openness to change versus conservation and self-enhancement versus self-transcendence.

We considered a classification that distinguishes self-enhancing and other-enhancing values to be most fruitful for our purposes, given that wisdom is thought to involve a joint concern for the personal and the common good (e.g., Assmann, 1994). A contemporary spokesman of this position is the philosopher Kekes (1996), who stressed that wisdom is knowledge about ways of developing oneself not only without violating the rights of others but also with coproducing resources for others to develop. In this vein, wisdom involves a coordinated pursuit of self- and other-enhancing interests rather than a one-sided focus on developing either one's own potential or that of others.

Recent psychological work on wisdom is consistent with this view. Table 1 illustrates our own theoretical view on the nature and function of wisdom (see also Baltes, Glück, & Kunzmann, 2002; Baltes & Staudinger, 2000). Similarly, Kramer (2000) proposes that wisdom is manifested in any of the following five functional capacities: solving one's own life problems, advising others, leading human institutions, reviewing life, and spiritual/philosophical introspection. In his recently developed balance theory of wisdom, Sternberg (1998) argues that the

TABLE 1: The Nature and Function of Wisdom as Expert Knowledge in the Fundamental Pragmatics of Life According to General Criteria Derived From Cultural-Historical Analysis and Specific Criteria Identified for the Berlin Wisdom Paradigm

General criteria	
Wisdom addresses important and difficult questions and suggests adaptive strategies concerning the conduct and meaning of life.	
Wisdom includes knowledge about the limits of knowledge and the uncertainties of the world.	
Wisdom represents a truly superior level of knowledge, judgment, and advice.	
Wisdom constitutes knowledge with extraordinary scope, depth, and balance.	
Wisdom involves a perfect synergy of mind and character, that is, an orchestration of knowledge and virtues.	
Wisdom is used for the good or well-being of oneself and of others.	
Wisdom, although difficult to achieve and to specify, is easily recognized when manifested.	
Specific criteria in the Berlin wisdom paradigm	
Rich factual knowledge about life meaning and conduct	
Rich procedural knowledge about life meaning and conduct	
Lifespan contextualism	
Value relativism and tolerance	
Recognition and management of uncertainty	

SOURCE: Table adapted from Baltes and Staudinger (2000).

central characteristic of wisdom is the application of tacit knowledge to maximize a common good through the balancing of multiple intra and interpersonal interests.

Given their convergent self-other orientation, people higher on wisdom-related knowledge should view self-enhancing values (i.e., values related to personal growth and insight) and other-enhancing values (i.e., values related to the well-being of friends, societal engagement, and ecological protection) to be of equal and high importance. Not all self-enhancing values, however, should be part of the value agenda of individuals high on wisdom-related knowledge. Rather, we argue that purely hedonic and egocentric values will not represent the orientation toward life that is typical of wisdom. People with higher levels of wisdom-related knowledge should show less preference for values revolving around a more “materialistic” and “sensual” pleasurable life than would people with lower levels of wisdom-related knowledge.

Wisdom-Related Knowledge and Strategies of Conflict Management

A third realm of psychological functioning investigated in this study was conflict management. Classical philosophical conceptions have emphasized that wisdom is inherently tied to the creative solving of social conflict. King Solomon’s solution to a dispute between two women who both claimed to be the biological mother of a child is a well-known legend that highlights this facet of wisdom. Specifically, Solomon’s suggestion

to divide the child by sword and give literally one half to each woman is generally seen as an effective strategy for identifying the biological mother and solving this interpersonal conflict.

Work concerned with laypersons’ theories about wisdom suggests that wise persons also may possess the prerequisites to effectively manage social conflicts in which they are personally involved (e.g., Clayton & Birren, 1980; Holliday & Chandler, 1986). According to this research, wise persons are seen as *not* being manipulative, irresponsible, calculating, or hostile to others but rather are described as being warm, sincere, fair, tolerant, sensitive, and reliable. (See also Helson & Srivastava, 2002.)

For present purposes, and because of the personal good–common good convergence linked to wisdom, the dual-concern model of interpersonal conflict seems to offer a useful classification of the multiple behaviors that occur during a conflict between close friends, partners, or parents and their children (Carnevale & Pruitt, 1992; Pruitt, 1998). The model emphasizes the motivational orientation underlying a person’s conflict behavior and distinguishes four general types of conflict strategies differing in the blending of two motivational concerns. In this model, cooperation results from high self-concern combined with high other-concern, dominance indicates high self-concern in combination with low other-concern, submission results from low self-concern combined with high other-concern, and avoidance indicates low self-concern combined with low other-concern.

Given that wisdom is thought to involve a balancing between one’s own interests and those of others, we expected that persons with higher levels of wisdom-related knowledge would be more likely to report that they engage in cooperative conflict behaviors (e.g., negotiating with the other party to find a compromise) than would persons with lower levels of wisdom-related knowledge. In contrast, wisdom-related knowledge should be negatively associated with conflict behaviors reflecting submission (e.g., blaming oneself to calm down the other party), dominance (e.g., doing everything to get one’s own way), or avoidance (e.g., refusing to talk with the other party).

Summary of the Main Predictions

The goal of this study was to provide evidence for the relations between wisdom as a body of knowledge about the meaning and conduct of life and psychological functioning in three realms: affect (subjective affective experiences), motivation (value orientations), and social relations (interpersonal conflict management strategies). Our predictions were guided by the notion that wisdom-related knowledge, as measured in our paradigm, involves both a balancing of multiple interests

involving the self, other people, and the ecological contexts of life and a tendency toward emotional modulation and complexity rather than a predominant preference for pleasure and comfort.

As to affective experiences, we predicted that people with higher levels of wisdom-related knowledge would report lower negative affect, reflecting their ability to efficiently deal with difficult and uncertain life problems. Furthermore, given their preference for representing the complexities of life in an undistorted manner (i.e., adherence to the reality principle rather than the pleasure principle), people with higher levels of wisdom-related knowledge should experience higher levels of affective involvement but lower levels of pleasant feelings.

As to value orientations, we predicted that people with higher levels of wisdom-related knowledge would indicate a greater preference for other-enhancing values (well-being of friends, societal engagement, ecological protection) and those self-enhancing values that go hand in hand with what we have called the reality principle (personal growth and life insight). We also predicted that people with higher levels of wisdom-related knowledge would show less preference for self-enhancing values that revolve around a pleasurable and comfortable life.

For strategies of conflict management, our prediction was that people higher on wisdom-related knowledge would report a greater preference for cooperation. At the same time, they should exhibit less preference for conflict management strategies that involve a one-sided concern with one's own interests (dominance), those of another person (submission), or no concern at all (avoidance).¹

METHOD

This study was part of a larger project whose additional focus was investigating various instructional methods aimed at enhancing wisdom-related performance (Glück & Baltes, 2002). We assessed wisdom-related knowledge in individual interviews during the first and second sessions. The third and fourth sessions were group sessions in which participants filled out a number of questionnaires designed to assess social, health, cognitive, and personality characteristics, including affective experiences (Session 3) as well as values and conflict strategies (Session 4). The time interval between the first and fourth session was, on average, 7 months ($SD = 9$ weeks).

Participants

The sample consisted of 318 participants from three age groups (young adults, 15-20 years; middle-age adults, 30-40 years; and older adults, 60-70 years), each

stratified by education (high vs. low); 50% of the sample were women. Participants were recruited through advertisements in the local Berlin newspapers. To reach a sufficient number of adolescents, we also distributed flyers at public sport and leisure clubs. Participants received DM 110 (approximately U.S.\$50) for their participation. The present analyses were based on only those participants who completed all four sessions of the study ($N = 293$; $n = 93$ young adults, $n = 93$ middle-age adults, and $n = 107$ older adults).

Measures

Wisdom-related knowledge. We used three tasks from our past work to assess wisdom-related knowledge, namely, the "suicide" task ("Somebody gets 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?"), the "life review" task ("In reflecting about their lives, people sometimes realize that they have not achieved what they had planned to. What could one/they consider and do?"), and the "young girl" task ("A 14-year-old girl wants to move away from home right away. What could one/she consider and do?").

As described in detail in earlier publications (e.g., Smith & Baltes, 1990; Staudinger & Baltes, 1996), participants were asked to respond by thinking aloud about the problem at hand. A panel of trained raters ($N = 10$) evaluated the transcribed answer protocols according to the five Berlin wisdom criteria (i.e., factual knowledge in the fundamental pragmatics of life, procedural knowledge in the fundamental pragmatics of life, lifespan contextualism, value relativism and tolerance, and awareness and management of uncertainty). Raters read the individual answer protocols ($N = 879$; 3 tasks \times 293 participants) and assigned each protocol a score between 1 (*no correspondence*) and 7 (*high degree of correspondence*), representing the degree to which a protocol matched the ideal definition of one wisdom criterion. Interrater reliabilities were acceptable and ranged from $r = .54$ to $r = .92$ ($M = .69$).

Cronbach's alpha for the 15 wisdom scores (5 criteria \times 3 tasks) was high ($\alpha = .96$). For the present structural equation modeling (SEM) analyses, and to indicate a general wisdom factor on the latent level, we created five criterion scales by collapsing the respective three task-specific scores for each criterion.² Cronbach's alphas for the five criterion scales were satisfactory: factual knowledge ($\alpha = .88$), procedural knowledge ($\alpha = .84$), lifespan contextualism ($\alpha = .74$), value relativism ($\alpha = .77$), and uncertainty ($\alpha = .81$).

Affective experiences. Self-reported affective feelings were assessed with an affect adjective list designed for this study. This list was modeled after the circumplex

model of affective experiences developed by Watson and Tellegen (1985). Because of time restrictions, we had to limit the number of adjectives in this study to 20. The selection of these 20 adjectives was guided by our goal to represent the octants of the circumplex model and to include those adjectives that have been used in past research with adult samples (e.g., Carstensen et al., 2000; Diener & Larsen, 1993). The present adjective list consisted of 10 negative affect adjectives (i.e., angry, afraid, hostile, indifferent, ashamed, contemptuous, apathetic, irritable, sad, disappointed) and 10 positive affect adjectives (i.e., exuberant, happy, proud, amused, cheerful, interested, alert, inspired, attentive, active). Participants were asked to indicate on a 5-point scale ranging from 1 (*not at all*) to 5 (*very often*) how frequently they had experienced each feeling during the past year.

As a first step, we conducted an exploratory factor analysis to investigate the idea that positive affect can be broken down into two affective dimensions, namely, pleasant affect and level of involvement, whereas negative affect represents one homogeneous factor. As expected, a principal components analysis of the 20 adjectives yielded three dominant factors accounting for 47% of the variance. The 10 negative adjectives (i.e., angry, afraid, hostile, indifferent, ashamed, contemptuous, apathetic, irritable, sad, disappointed) loaded on the first factor (negative affect), 5 of the positive adjectives (i.e., exuberant, happy, proud, amused, cheerful) loaded on the second factor (pleasant affect), and the remaining 5 positive adjectives (i.e., interested, alert, inspired, attentive, active) loaded on the third factor (affective involvement). All adjectives had strong primary loadings on the appropriate factor and cross-loadings were weak. Cronbach's alphas were satisfactory for negative affect ($\alpha = .81$), pleasant affect ($\alpha = .78$), and affective involvement ($\alpha = .76$).

For the present SEM analyses, the 10 adjectives indicating negative affect, the 5 adjectives indicating pleasant affect, and the 5 adjectives indicating affective involvement were each grouped to build three subscales indicating negative affect, pleasant affect, and affective involvement, respectively. Several procedures for collapsing items into subscales have been suggested in the literature (e.g., Kishton & Widaman, 1994). Given that the affect adjectives showed uniformly high loadings on the appropriate factor in our explorative factor analysis, and that the Cronbach's alphas for the affective scales were uniformly high, three negative affect subscales were built by random pairing of the 10 negative affect adjectives, three pleasant affect subscales were built by random pairing of the 5 pleasant affect adjectives, and three involvement subscales were built by random pairing of the 5 involvement affect adjectives.

Value orientations. Three self-enhancing values (i.e., pleasurable life, personal growth, insight into life in general) and three other-enhancing values (well-being of friends, societal engagement, ecological protection) were assessed with a questionnaire designed for this study. The six value dimensions were each indicated by several specific value items (the items are presented in Appendix A). Participants indicated the importance of each value as a guiding principle in their lives by using a response format from 1 (*extremely unimportant*) to 5 (*extremely important*).

Cronbach's alphas for the six value-orientation scales were satisfactorily high: pleasurable life ($\alpha = .78$), personal growth ($\alpha = .64$), insight ($\alpha = .77$), well-being of friends ($\alpha = .69$), societal engagement ($\alpha = .76$), and ecological protection ($\alpha = .78$). For the present SEM analyses, we created three subscales for each of the six value-type scales by randomly pairing the specific items (i.e., for each of the value-type scales, items were randomly divided into thirds).

Interpersonal conflict behavior. Four strategies for managing interpersonal conflict (avoidance, submission, dominance, and cooperation) were assessed by a questionnaire developed for this purpose. The four conflict strategies were each indicated by several more specific conflict behavior items (the items are listed in Appendix A). To fill out this questionnaire, participants had to (a) nominate the person who was most important to them at the moment, (b) think about situations in which they had had a conflict with this most important person, and (c) indicate, on a scale ranging from 1 (*not at all typical of me*) to 5 (*very typical of me*), the degree to which each item described their own behaviors during those conflict situations.

Participants nominated a partner ($n = 128$), friend ($n = 85$), parent ($n = 14$), sibling ($n = 14$), child ($n = 33$), acquaintance ($n = 10$), colleague ($n = 1$), neighbor ($n = 1$), or another person not included in our list ($n = 7$). There were significant gender, $\chi^2(8) = 26.49, p < .001$, and age, $\chi^2(16) = 106.99, p < .001$, differences in the nominated persons. Men were more likely than women to nominate a partner ($n_{\text{men}} = 79; n_{\text{women}} = 49$), whereas women were more likely to nominate a child ($n_{\text{men}} = 5; n_{\text{women}} = 28$). Compared to young and middle-age participants, older people were more likely to nominate a partner ($n_{\text{young}} = 19; n_{\text{middle}} = 44; n_{\text{old}} = 65$) or a child ($n_{\text{young}} = 0; n_{\text{middle}} = 10; n_{\text{old}} = 23$), whereas younger participants were more likely to select a friend ($n_{\text{young}} = 52; n_{\text{middle}} = 24; n_{\text{old}} = 9$) or parent ($n_{\text{young}} = 12; n_{\text{middle}} = 2; n_{\text{old}} = 0$).

Cronbach's alphas for the four conflict scales were satisfactory: avoidance ($\alpha = .79$), submission ($\alpha = .79$), dominance ($\alpha = .79$), and cooperation ($\alpha = .77$). For the pres-

ent SEM analyses, we created three subscales for each of the four conflict scales by random pairing of the specific items (i.e., for each of the conflict scales, items were randomly divided into thirds).

Covariates. We tested age group (young = 15-20 years, middle-age = 30-40 years, and older = 60-70 years), gender, and five personality traits (neuroticism, extraversion, openness, agreeableness, conscientiousness) as covariates. Past research has suggested that these variables are important contributors to affectivity, value orientations, or conflict strategies (e.g., Carstensen et al., 2000; McCrae & Costa, 1991; Schwartz, 1992).

Personality traits were assessed with a German short version of the NEO-PI (Costa & McCrae, 1985) developed by Borkenau and Ostendorf (1989). This version contains 60 items, 12 per dimension. Because of time limitations, only 6 items were randomly selected for each of the five dimensions. Using a 5-point response scale ranging from 1 (*not at all true of me*) to 5 (*very true of me*), participants indicated the degree to which each of the items described themselves. The six-item scales showed satisfactory α reliabilities (neuroticism: $\alpha = .74$; extraversion: $\alpha = .56$; openness: $\alpha = .44$; agreeableness: $\alpha = .58$; conscientiousness: $\alpha = .67$).

Statistical Analyses

To test our predictions, we employed SEM techniques. Model fit was assessed by the following fit statistics: χ^2 value with its associated degrees of freedom and probability level, root mean square error of approximation (RMSEA), nonnormed fit index (NNFI), and normed fit index (NFI). Neither the observed nor the latent variables were standardized. Covariance matrices were analyzed by applying the maximum likelihood procedure as a method of parameter estimation.

RESULTS

Wisdom-Related Knowledge and Affective Experiences

Model specification and fit of the measurement model. We specified a four-factor covariance structure model to test our predictions on the links between wisdom-related knowledge and affective experiences. Because our model of wisdom contains five subscales, wisdom was specified as a five-indicator factor, whereas each of the three dimensions of affective experience were indicated by three subscales. Residual variances (i.e., random errors of measurement and uniqueness of the indicators) were specified to be uncorrelated. For purposes of identification, all latent factor variances were fixed to 1.0. The relationships among the four latent factors were specified as PSI paths. This model showed acceptable fit, $\chi^2(71) = 90.25$; RMSEA = .03; NFI = .97;

NNFI = .99. All estimates of factor loadings were reasonable, which is a further indication of an acceptable fit between the hypothesized model and the sample data (see Table 2).

Figure 1 presents the associations between wisdom-related knowledge and the three dimensions of affective experience. As predicted, wisdom-related knowledge was positively linked to affective involvement, as indicated by feelings such as being interested, inspired, or attentive ($r = .28, p < .01$). In contrast, wisdom-related knowledge was negatively associated with negative affect ($r = -.13, p < .05$) and pleasant affect ($r = -.17, p < .05$). The finding that individuals with higher wisdom scores reported experiencing negative affect less frequently, pleasant affect less frequently, and yet reported being more affectively involved is in line with our expectations. Wisdom-related knowledge implies affective modulation but at the same time affective engagement.

A further finding involving the three affective dimensions themselves deserves mention. As depicted in Figure 1, negative affect was negatively related to pleasant affect ($r = -.37, p < .01$) but unrelated to affective involvement ($r = -.07, ns$). The correlation between affective involvement and pleasant affect was moderate and positive ($r = .38, p < .01$). These relations are consistent with the findings of earlier research studying the structure of affective experiences (Watson & Tellegen, 1985).

Analyses of covariates. As seen in Appendix B, with one exception (openness was unrelated to negative affect), age group, gender, and the five personality covariates showed significant and meaningful associations with the three dimensions of affective experience. To test the univariate effects of the present covariates, we specified structural equation models that included, in addition to wisdom-related knowledge, one of the covariates as a latent factor (i.e., as an alternative predictor of the three outcomes). Relations among predictor and outcome factors were specified as BETA paths.

These control analyses showed that the associations between wisdom-related knowledge and the three dimensions of affective experience remained significant and basically unchanged after controlling for the present personality variables separately (see Table 3). Moreover, only one relationship, namely, that between wisdom-related knowledge and negative affect, became nonsignificant after simultaneously controlling for all personality factors.³ Similarly, after controlling for gender, the relationships between wisdom-related knowledge and the three affective dimensions remained significant and basically unchanged.

After age group was controlled, however, the effects of wisdom-related knowledge on two of the three dimensions of affective experience (pleasant affect and nega-

TABLE 2: Unstandardized Factor Loadings and Community for Confirmatory Factor Models

<i>Factor</i>	<i>Indicator</i>	<i>Loading^a</i>	<i>t</i>	<i>SE</i>	<i>R^{2b}</i>
Wisdom	Factual knowledge	.91	20.05	.05	.82
	Procedural knowledge	.92	20.59	.04	.85
	Lifespan contextualism	.87	18.68	.05	.76
	Value relativism	.91	20.07	.05	.82
	Uncertainty	.95	21.57	.04	.89
Model 1: Emotional experience					
Involvement ^c	Subscale 1	.74	13.23	.06	.55
	Subscale 2	.77	13.83	.06	.59
	Subscale 3	.78	14.04	.06	.61
Pleasant affect ^c	Subscale 1	.75	13.21	.06	.56
	Subscale 2	.69	12.14	.06	.48
	Subscale 3	.84	15.15	.06	.71
Negative affect ^c	Subscale 1	.69	11.73	.06	.47
	Subscale 2	.74	12.72	.06	.55
	Subscale 3	.73	12.56	.06	.53
Model 2: Value orientations					
Pleasurable life ^c	Subscale 1	.68	12.11	.06	.46
	Subscale 2	.90	16.87	.05	.80
	Subscale 3	.70	12.43	.06	.48
Personal growth ^c	Subscale 1	.55	9.13	.06	.30
	Subscale 2	.75	13.10	.06	.56
	Subscale 3	.82	14.48	.06	.66
Life insight ^c	Subscale 1	.73	13.38	.05	.53
	Subscale 2	.82	15.54	.05	.67
	Subscale 3	.66	11.75	.06	.53
Well-being of friends ^c	Subscale 1	.59	9.73	.06	.35
	Subscale 2	.64	10.72	.06	.41
	Subscale 3	.69	11.67	.06	.48
Societal engagement ^c	Subscale 1	.82	16.04	.05	.68
	Subscale 2	.80	15.46	.05	.64
	Subscale 3	.51	8.68	.06	.26
Ecological protection ^c	Subscale 1	.91	19.39	.05	.83
	Subscale 2	.74	14.20	.05	.55
	Subscale 3	.83	16.76	.05	.69
Model 3: Conflict management strategies					
Avoidance ^c	Subscale 1	.76	13.61	.06	.58
	Subscale 2	.65	11.26	.06	.42
	Subscale 3	.78	14.03	.06	.61
Submission ^c	Subscale 1	.81	14.94	.05	.66
	Subscale 2	.67	11.2	.06	.44
	Subscale 3	.79	14.49	.05	.63
Dominance ^c	Subscale 1	.69	12.17	.06	.48
	Subscale 2	.85	15.51	.05	.72
	Subscale 3	.73	12.92	.06	.53
Cooperation ^c	Subscale 1	.77	12.80	.06	.59
	Subscale 2	.74	12.31	.06	.55
	Subscale 3	.54	8.78	.06	.29

a. Represents unstandardized factor loadings.

b. Community (R^2) = 1 – standardized residual variance.

c. Items were randomly divided into subscales to ensure greater reliability and generality of the indicators (for further details, see main text).

tive affect) became nonsignificant. Statistically, this suggests that wisdom-related knowledge does not have unique effects on these two affective dimensions but shares its effects with age. Conceptually, such a pattern is consistent with our lifespan developmental orientation. One important ingredient to the acquisition of wisdom-

related knowledge is life experience, and life experience takes time. During adulthood, therefore, many development-enhancing conditions of wisdom-related knowledge are inherently associated with chronological age (Baltes, Staudinger, & Lindenberger, 1999).

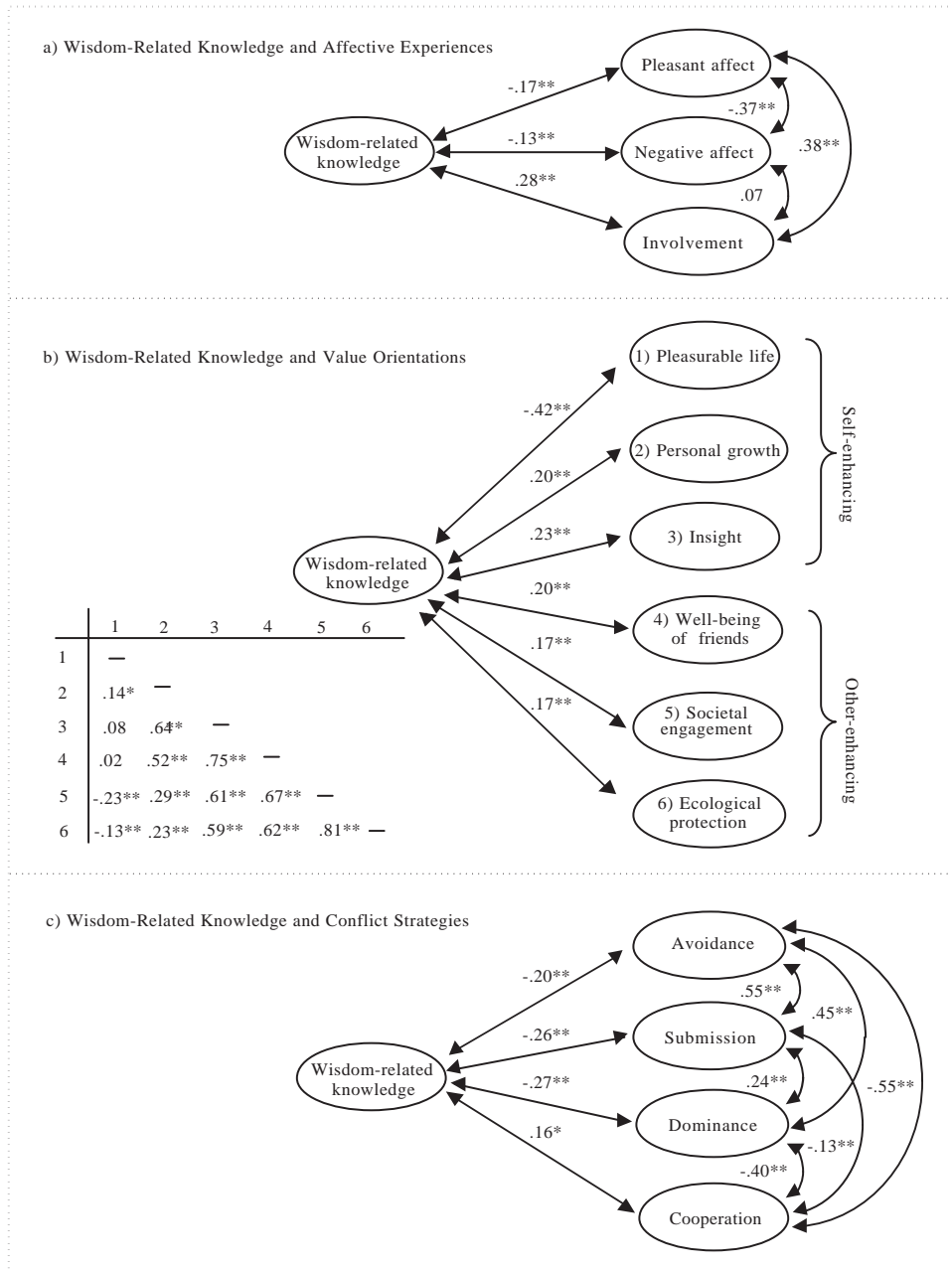


Figure 1 Structural equation models of the cross-sectional associations of wisdom-related knowledge and three multidimensional indicators of psychological functioning: affective experience, value orientations, and conflict management strategies.

NOTE: For clarity of presentation, this figure only presents the structural models. The measurement models (i.e., factor loadings of all indicators on the latent constructs) are separately reported in Table 2.

* $p < .05$. ** $p < .01$.

Wisdom-Related Knowledge and Value Orientations

Model specification and fit of the measurement model. We specified a seven-factor covariance structure model to test our predictions on the correlational links between wisdom-related knowledge and values. As in the previous model, wisdom-related knowledge was specified as a five-indicator factor, whereas the six value dimensions were

each indicated by three subscales. This model showed acceptable fit, $\chi^2(209) = 397.76$; RMSEA = .05; NFI = .91; NNFI = .94, and all estimates of factor loadings were reasonable (see Table 2).

Figure 1 presents the associations between wisdom-related knowledge and the six value orientations. As predicted, wisdom-related knowledge was negatively linked to one of the six value dimensions, that is, a pleasurable

TABLE 3: Relations of Wisdom-Related Knowledge With Affective Experience, Value Orientations, and Conflict Management Strategies, When Controlled for Seven Covariates

Central Constructs	Covariates							
	Personality Covariates						Age ^b	Sex ^c
	N	E	O	A	C	All ^a		
Wisdom and outcome								
Pleasant affect	-.21**	-.25**	-.22**	-.18*	-.19*	-.28*	-.03	-.17*
Negative affect	-.11*	-.13*	-.14*	-.11*	-.11*	-.11	.01	-.13*
Involvement	.17**	.29**	.24**	.29**	.28**	.22**	.14*	.29*
Pleasurable life	-.45**	-.51**	-.46**	-.45**	-.45**	-.43**	-.27**	-.46**
Personal growth	.20**	.20**	.13*	.20**	.18**	.10	.13*	.20**
Life insight	.22**	.23**	.19**	.22**	.22**	.15*	.11*	.23**
Well-being of friends	.19**	.20**	.21**	.19**	.18**	.17*	.10	.20**
Societal engagement	.16*	.17*	.18*	.16*	.15*	.14*	.02	.17*
Ecological protection	.16*	.17*	.17*	.16*	.16*	.13*	.01	.17*
Avoidance	-.18*	-.19**	-.19**	-.19**	-.19**	.10	-.21*	-.20**
Submission	-.26**	-.26**	-.21**	-.26**	-.27**	-.21*	-.29**	-.27**
Dominance	-.27**	-.28**	-.28**	-.26**	-.27**	-.24**	-.15*	-.28**
Cooperation	.14*	.15*	.13*	.14*	.14*	.15*	.16*	.16*

NOTE: N = neuroticism; E = extraversion; O = openness; C = conscientiousness; A = agreeableness.

a. Relationships between wisdom-related knowledge and outcomes when simultaneously controlled for the present five personality factors.

b. Age group (young adults = 15-20 years, middle-age adults = 30-40 years, older adults = 60-70 years).

c. The response format of the gender variable was 1 (*female*) and 2 (*male*).

* $p < .05$. ** $p < .01$.

life ($r = -.42, p < .01$). Wisdom-related knowledge, however, showed positive associations with the remaining five value dimensions, namely, personal growth ($r = .20, p < .01$), insight ($r = .23, p < .01$), well-being of friends ($r = .20, p < .01$), societal engagement ($r = .17, p < .05$), and ecological protection ($r = .17, p < .01$). This pattern of findings is consistent with our prediction that wisdom-related knowledge is differentially associated with the value orientations considered. Individuals with higher levels of wisdom scored lower on the pleasurable-life value, whereas they scored higher on values referring to personal growth, life insight, the well-being of friends, societal engagement, and ecological protection.

Analyses of covariates. As seen in Appendix B, the present covariates showed significant and meaningful associations with the value dimensions. To test the univariate effects of the covariates, we specified models that included, in addition to wisdom, one of the covariates as a latent factor (i.e., as an alternative predictor of the six value outcomes). Relations among predictor and outcome factors were specified as BETA paths.

As shown in Table 3, the associations between wisdom-related knowledge and the six value orientations remained significant and basically unchanged after controlling for the personality variables separately. Only one relationship, namely, that between wisdom-related knowledge and personal growth, became nonsignificant after simultaneously controlling for all personality factors.

Similarly, after controlling for gender, the relationships between wisdom-related knowledge and the six

value dimensions remained significant and basically unchanged. After age group was controlled, however, the effects of wisdom-related knowledge on the three other-enhancing values became nonsignificant. Statistically speaking, the variance component that links wisdom-related knowledge and other-enhancing values is shared by the variance component of age.

Wisdom-Related Knowledge and Strategies of Conflict Management

As in the previous models, wisdom-related knowledge was specified as a five-indicator factor, whereas the four conflict strategies were each indicated by three subscales. This five-factor model showed acceptable fit, $\chi^2(109) = 188.20$; RMSEA = .05; NFI = .94; NNFI = .97, and all estimates of factor loadings were reasonable (see Table 2).

Figure 1 shows the relations between wisdom-related knowledge and the four conflict strategies. As predicted, wisdom-related knowledge was negatively linked to conflict management strategies of avoidance ($r = -.20, p < .01$), submission ($r = -.26, p < .01$), and dominance ($r = -.27, p < .01$) but showed a positive relation to cooperation ($r = .16, p < .05$). Thus, individuals with higher levels of wisdom-related knowledge expressed a preference for conflict management strategies that are usually considered to be more desirable and effective.

Analyses of covariates. As in previous statistical control analyses, we specified models that included, in addition to wisdom-related knowledge, one of the present

covariates as a latent factor (i.e., as an alternative predictor of the four outcomes).

These analyses showed that the relations between wisdom-related knowledge and the four strategies of conflict management remained significant and basically unchanged after controlling separately for the personality variables (see Table 3). After controlling simultaneously for all personality factors, only one relationship, namely, that between wisdom-related knowledge and avoidance, became nonsignificant. The relationships between wisdom-related knowledge and the four strategies of conflict management remained significant after gender and age group were controlled separately.

DISCUSSION

Corroborating prominent psychological and philosophical conceptions of wisdom, the present evidence suggests that wisdom-related knowledge is related to indicators of psychological functioning in three realms: affect (subjective affective experiences), motivation (value orientations), and interpersonal behavior (strategies of conflict management). Together, our findings are consistent with the notion that wisdom involves complexity and modulation rather than pleasure and a joint commitment to the well-being of oneself and that of others (e.g., Baltes & Staudinger, 2000; Kramer, 2000; Labouvie-Vief & Medler, 2002; Sternberg, 1998).

Reflecting a complex and modulated pattern of affective experiences, wisdom-related knowledge was associated with higher affective involvement and a tendency for less negative feelings and less pleasant feelings. As to value orientations, wisdom-related knowledge was positively related to values oriented toward personal growth and life insight as well as to other-enhancing values (i.e., well-being of friends, societal engagement, and ecological protection). Wisdom-related knowledge was, however, and this is important to wisdom theory, negatively related to valuing a pleasurable life ($r = -.42$). As to strategies of conflict management, wisdom-related knowledge was positively related to cooperation but showed negative relations to submissive, dominant, or avoidant strategies. For the most part, the present associations remained unchanged after gender and five personality traits—extraversion, neuroticism, openness, agreeableness, and conscientiousness—were controlled for.

From a developmental perspective, it is interesting to note that age and wisdom-related knowledge were positively associated and that some relationships of wisdom-related knowledge to affective experiences and value preferences became nonsignificant after controlling for age. This evidence from our statistical control analyses is conceptually meaningful because it is to be expected that wisdom-related knowledge and age-based trajectories and experiences have certain aspects in common.

This co-development expressed itself in the present data, particularly for pleasant affect, negative affect, and other-enhancing values.

The present evidence on the spectrum of associations with wisdom-related knowledge enriches earlier work. One example is the tradition of implicit wisdom theories (e.g., Clayton & Birren, 1980; Holliday & Chandler, 1986; Pasupathi & Baltes, 2000; Sowarka, 1989, Sternberg, 1985). In these studies, in which laypeople offered their beliefs about the nature of wisdom, wise people have been viewed as being relaxed, self-actualized, well-adjusted, and mature. At the same time, wise persons have been described as tolerant, fair, compassionate, and caring. The present study, which was based on an empirical paradigm to assess wisdom-related knowledge, suggests that these expectations about wisdom and wise persons, at least on the level of self-report, may be “psychologically true.”

Also related to the present study is past work studying person characteristics of adults who display higher levels of wisdom-related knowledge. In this work, personality characteristics such as openness to experience or search for meaning and purpose in life were found to be associated with higher levels of wisdom-related knowledge (e.g., Helson & Srivastava, 2002; Staudinger et al., 1997; Wink & Helson, 1997). The present findings suggest that this fabric of correlates of wisdom-related knowledge can be extended to include a life orientation that is incompatible with primarily self-centered and hedonic feelings revolving around a life full of joy and pleasures. Rather, wisdom-related knowledge seems to be linked to self-reports indicating the ability to understand the complexity of life and a joint commitment to developing one’s own potential and that of others.

Wisdom-Related Knowledge and Affective Experience

According to philosophical conceptions, wisdom involves affective modulation and, at the same time, reflectivity and an understanding of complexity (e.g., Hartshorne, 1987; Labouvie-Vief, 1990). The present evidence is consistent with this view. On one hand, people with higher levels of wisdom-related knowledge reported experiencing feelings of negative affect less frequently. On the other hand, people higher on wisdom-related knowledge reported experiencing greater affective engagement in their environment and, perhaps most important, lower levels of pleasant affect. These findings correspond to the theoretical notion that wisdom involves adherence to the reality principle (i.e., motivation to explore and understand the complexity of reality) rather than the pleasure principle (i.e., motivation to maximize pleasant experiences). The present evidence also is consistent with Linville’s self-complexity work. As Linville (1985) has shown, the more complex a

person's cognitive representation of the self, the more extreme will be that person's swings in affect following a failure or success experience.

Our finding that wisdom-related knowledge was negatively related to pleasant feelings might suggest to researchers on subjective well-being that wisdom involves "emotional costs." Past work from several fields, including humanistic psychology and lifespan developmental psychology, however, has always stressed that psychological adjustment requires more than the maximization of pleasant feelings (e.g., Baltes, 1997; Labouvie-Vief & Medler, 2002; Ryff, 1989). Progress in understanding the course of life and its variations, it is argued, requires and reflects a structure of affective experiences that is less evaluative, self-centered, and positively tuned and more process oriented, environment centered, and therefore, relevant for a person's concrete interactions with his or her environment (see also the historical treatment of the concept of melancholy by Lepenies, 1969).

The present data were based on a general dispositional approach and an assessment method in which people were asked to report their affective experiences within a 1-year time frame. Our findings therefore do not exclude the possibility that there are certain occasions in which people with higher levels of wisdom-related knowledge report strong and less modulated feelings, both pleasant ones such as happiness and negative ones such as anxiety or sadness. Investigating such dynamics will require longitudinal and microgenetic studies. One possible avenue for future research investigating the link between wisdom-related knowledge and affect is to study specific feelings as they occur in various situations of everyday life. In this context, it would be valuable to have information on the causes of affective experiences (e.g., certain appraisals) and the conditions under which they differ for people with different levels of wisdom-related knowledge.

It also will be interesting to conduct laboratory studies and examine in a more fine-grained manner whether and how wisdom-related knowledge makes a difference in people's actual emotional reactions to specific emotion-arousing events. In the laboratory, emotions can be investigated *in vivo*, and emotional reactions can be assessed on different levels, namely, self-reported feelings, behavioral expressions, or physiological arousal. Given that these reaction systems have been shown to provide unique information about an emotional response, they should be assessed simultaneously (e.g., Levenson, Carstensen, Friesen, & Ekman, 1991). An interesting topic for future work is to explore whether wisdom-related differences in self-reported emotional experiences will generalize across the subsystems of an emotion.

Moreover, emotion researchers have emphasized that there is an important difference between emotional

reactivity (presumably unregulated emotional responses to emotion-eliciting events) and emotion regulation (active attempts to alter one's emotional reactions, e.g., their magnitude or time course) (see Gross, 1998). To test the prediction that wisdom involves emotional modulation in the sense of effective, voluntary control of emotional feelings, one would have to conduct experimental research that compares the emotion-regulatory competencies of people with different levels of wisdom-related knowledge. An interesting possibility is that people higher on wisdom-related knowledge will be better able to regulate their emotional reactions so that they are in accordance not only with immediate situational requirements but also with longer term goals of maximizing conjointly the development of oneself and others. Exploring the relations between wisdom-related knowledge and abilities subsumed under the concept of emotional intelligence (i.e., the ability to identify, express, understand, use, and manage emotions in oneself and others) also would be useful (Salovey, Mayer, & Caruso, 2002).

Wisdom-Related Knowledge and Value Orientations

The present results regarding the associations between wisdom-related knowledge and value orientations also were consistent with our predictions. Wisdom-related knowledge was positively related to what we have called other-enhancing values (i.e., values relating to the well-being of friends, societal engagement, and ecological protection) and those self-enhancing values that are oriented toward self-actualization and insight into life in general. At the same time, wisdom-related knowledge was negatively associated with values revolving around a pleasurable life. This pattern of findings corroborates the idea that wisdom involves a joint orientation toward the personal and the common good and includes a spiritual orientation that extends beyond one's own physical state (Baltes & Staudinger, 2000; Sternberg, 1998; Takahashi & Overton, 2002).

The value orientations considered in this study did not cover a representative sample of all the values a person can possibly hold; rather, our goal was to illustrate that wisdom-related knowledge is an inherently inter- and intrapersonal concept. As the first step, we therefore selected only a few values that could be relatively clearly classified as primarily self- or other-enhancing. It remains to be seen whether wisdom-related knowledge makes a difference in other values not assessed on this study (e.g., security, dominance, or conformity) (Schwarz, 1992).

Moreover, it is interesting to investigate not only how many and what kinds of value orientations people who approach wisdom like qualities may hold. Equally important is whether persons with higher levels on wisdom-related knowledge are particularly efficient in applying

and pursuing their values on the behavioral level (e.g., Baltes & Freund, in press). Does wisdom make a difference in the behavioral manifestations of other-enhancing values? Is there a link between wisdom and what Rossi (2001) has called social productivity? Obviously, it is one thing to report about holding certain values and another thing to actually pursue them on the behavioral level. It will be interesting to see whether the present evidence on the links between wisdom-related knowledge and certain self-reported value orientations generalizes to the behavioral level.

Wisdom-Related Knowledge and Strategies of Conflict Management

Finally, our differential predictions about the relationships between wisdom-related knowledge and four strategies of conflict management were supported. Individuals with higher scores on wisdom-related knowledge reported a preference for cooperative conflict strategies while expressing less preference for those strategies indicating dominance, submission, or avoidance. This evidence is promising in that it further corroborates the idea that wisdom involves aspects of interpersonal behavior and a balancing of self- and other-enhancing interests. It also opposes the view that wisdom-related knowledge, as assessed in our paradigm, is an abstract body of knowledge that may only be relevant for philosophical discourse about abstract problems. The present evidence suggests that wisdom-related knowledge also makes a difference in people's behavioral choices when they grapple with interpersonal problems.

Nevertheless, our findings can only be considered as a first step toward understanding how people with different degrees of wisdom-related knowledge differ in their behavior during social conflict. Given the limitations of questionnaire approaches to studying conflict behaviors (e.g., selective memory or interpretative biases), we share the view that experimental research is needed in which people's actual behaviors are observed during conversations about topics of disagreement (e.g., Gottman & Levenson, 1992). The observation of interactions during a conflict also would permit taking the behaviors of all persons involved in the conflict into account when examining a particular person's conflict strategies. Do persons with higher levels of wisdom-related knowledge always behave more cooperatively than people with lower levels of wisdom-related knowledge, or is their behavior dependent on the opponents' behavioral choices? Are conflict management strategies of people with high levels of wisdom-related knowledge guided by longer-term goals rather than momentary desires as the concept of wisdom would suggest? Obviously, these questions can be addressed only on the basis

of sequentially observed conflict interactions and experimental manipulations of task demands.

Caveats and Outlook

This study extended our past work on the correlates of wisdom-related knowledge by investigating the links of wisdom-related knowledge to affective experiences, value orientations, and preferences for strategies of conflict management. The pattern of findings was consistent with our predictions and apparently not due to an overlap in method variance. The method employed to assess wisdom-related knowledge was think-aloud protocols about difficult and uncertain life problems. The assessment of affective experiences, values, and conflict strategies was based on standardized self-report questionnaires. Most of the relations, reported here, were robust when alternative predictors of the outcomes were controlled for separately. Where statistical control analyses suggested a lack of uniqueness, the covariance patterns were conceptually meaningful, such as the covariation of age trends and wisdom-related knowledge. This study is, however, only a first step toward an understanding of the affective, motivational, and interpersonal factors that go hand in hand with wisdom-related knowledge.

Although the overall pattern of the present findings is encouraging, one limitation of this study is our selection of indicators of psychological functioning. As emphasized throughout this article, we have focused on subjective indicators assessed by questionnaires. As is known from past self-report research in diverse fields, adults' subjective evaluations of their competencies often are not accurate reflections of the "objective" situation. Self-report studies need to be supplemented with work on more objective behavioral indicators of the competencies considered in this study. Moreover, there are other important indicators of effective functioning on the individual and societal level that await future research (e.g., generativity) (Mac Adams & de St. Aubin, 1998).

A second limitation of this study is its correlational nature. One task for future theoretical and empirical work will be to specify which correlates of wisdom-related knowledge may be constituent parts of wisdom. Such endeavors will be important to moving our definition of wisdom as knowledge based to a broader definition that also includes behavioral manifestations. If one is interested in studying causal or developmental linkages, for example, one needs to turn to a creative combination of experimental and longitudinal designs (e.g., Kruse, Lindenberger, & Baltes, 1993). In addition, observational methods would be especially suitable to test the prediction that the availability of wisdom-related knowledge in a given situation influences a person's actual emotions, decisions, and behaviors. As to the question of developmental linkages, our prediction would be that

the link between wisdom-related knowledge and other facets of positive human functioning reflects principles of mutual and reciprocal causation. Given that past work suggests that the primary time window for the development of wisdom-related knowledge is late adolescence and early adulthood (Pasupathi, Staudinger, & Baltes,

2001), we recommend that experimental and longitudinal work on this topic begin with a focus on these age periods. But other points of entry exist as well, for example, the study of people who undergo major life transitions or grapple with critical life events (e.g., Montada, Filipp, & Lerner, 1992).

APPENDIX A Items of the Value and Conflict Strategy Questionnaires

<i>Dimension</i>	<i>Item</i>
The Value Questionnaire: Six Scales ^a	
Pleasurable life	1. Enjoying life 2. Being well-to-do (having material possessions or money) 3. Being able to fulfill my wishes 4. Leading an agreeable life 5. Being happy and having fun
Personal growth	1. Learning to understand myself 2. Having things straightened out within myself 3. Gaining new insights during my life 4. Gathering experiences that broaden my horizons 5. Developing myself constantly
Insight into life in general	1. Understanding the world 2. Understanding what life means 3. Having a deep understanding of life in general 4. Getting to know other cultures 5. Having an interest in the world
Well-being of friends	1. Helping colleagues or schoolmates in need 2. Being willing to forgive my friends 3. Being fair to my fellow man 4. Standing by my friends
Societal engagement	1. Doing something for our society 2. Doing something for peace in the world 3. Being active against conflicts and wars 4. Being engaged politically (e.g., joining a political party)
Ecological protection	1. Helping to protect the environment 2. Helping to preserve the beauty of nature 3. Living in harmony with nature 4. Helping to protect endangered animals and plants
The Conflict Strategy Questionnaire: Four Scales ^b	
When we have an argument . . .	
Avoidance	1. . . . I stay out of her/his way 2. . . . I cannot stand it and withdraw 3. . . . I refuse to talk to her/him 4. . . . I reach a point at which I would most of all like to vanish
Submission	1. . . . I say she/he is right so that she/he is not angry with me 2. . . . I say she/he is right to satisfy her/him 3. . . . I try to please her/him 4. . . . I blame myself to calm her/him down
Dominance	1. . . . I do everything I can to get my own way 2. . . . I provoke her/him and get her/him to react 3. . . . I am stubborn and do not give in 4. . . . I say things in the heat of the argument that I do not really mean 5. . . . I explode and lose control 6. . . . It can happen that I make her/him furious
Cooperation	1. . . . I negotiate with her/him to find a compromise 2. . . . I look for alternatives that both of us can accept 3. . . . I try to discuss with her/him what caused the problem 4. . . . I try to understand her/him

a. The instructions were as follows: "For each value, indicate how important it is as a guiding principle in your life."

b. The instructions were as follows: "For each statement, indicate how well it applies to *your* behavior when you have a conflict with the person to whom you feel closest at the moment." Response scale ranged from 1 (*not at all typical of me*) to 5 (*very typical of me*).

APPENDIX B
Zero-Order Relations Among the
Present Central Constructs and Covariates^a

Central Constructs	N	E	O	A	C	Age ^b	Sex ^c
Wisdom-related knowledge	-.08	.05	.26**	.08	.10	.39**	-.03
Pleasant affect	-.29**	.57**	.15*	.08	.13*	-.38**	.09
Negative affect	.65**	-.16*	.00	-.38**	-.35**	-.35**	.05
Involvement	-.46**	.31**	.23**	.29**	.48**	.43**	-.14*
Pleasurable life	.08	.32**	-.05	-.10	-.04	-.55**	.13*
Personal growth	-.09	.18*	.33**	.10	.23**	.20**	-.21**
Life insight	-.17*	.11	.21**	.26**	.19*	.33**	-.12
Well-being of friends	-.27**	.17*	-.02	.42**	.28**	.27**	-.12
Societal engagement	-.20**	.04	.00	.28**	.21**	.39**	-.07
Ecological protection	-.18*	.10	.03	.32**	.28**	.44**	-.13*
Avoidance	.27**	-.21**	-.04	-.08	-.09	-.01	-.07
Submission	.14*	-.19*	-.25**	-.01	-.08	.00	.19*
Dominance	.24**	-.05	-.03	-.26**	-.19*	-.36**	.02
Cooperation	-.20*	.22**	.14*	.25**	.20*	.01	-.01

NOTE: N = neuroticism; E = extraversion; O = openness; A = agreeableness; C = conscientiousness.

a. The associations between wisdom-related knowledge and the central constructs (i.e., dimensions of affective experiences, value orientations, and conflict management strategies) are depicted in Figure 1.

b. Age group (young adults = 15-20 years, middle-age adults = 30-40 years, older adults = 60-70 years).

c. The response format of the gender variable was 1 (*female*) and 2 (*male*).

* $p < .05$. ** $p < .01$.

NOTES

1. To prevent a possible misunderstanding, we need to mention that our predictions concern general dispositions. There may be specific situations in which people with higher levels of wisdom-related knowledge experience strong emotions (pleasant or negative feelings), show a preference for pleasure and comfort, or report using dominant strategies of conflict management. Our predictions, however, refer to a person's dispositional status and general profile of preferences when seen over longer periods of time and across multiple situations.

2. In structural equation modeling, analyzing subscales instead of items is advantageous for several reasons: Subscale scores typically have greater reliability and generality; response biases and other characteristics that are idiosyncratic to individual items are likely to have less influence; the ratios of measured variables to inferred factors are increased; and distributions of the measured variables are less likely to cause problems.

3. The reported results are based on the analysis of a partial covariance matrix. This matrix contains the associations among the present central factor's indicators after they were residualized on the five personality factors.

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