
Creative and Wise People: Similarities, Differences, and How They Develop

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The authors compared personality correlates of creative achievement and wise performance in middle-age women of a longitudinal study. In Q-sort descriptions, originality and ambition were particularly salient in creative individuals, whereas meaning-making and benevolence were salient in wise individuals. Inventory measures of openness, unconventionality, ambition, and autonomy at age 21 predicted creative achievement, and measures of openness and tolerance predicted wisdom. Creative achievers increased over time in social integration and wise women in status-awareness. A behavioral commitment (creative activity soon after college or psychotherapeutic or spiritual careers) added significantly to age-21 openness and complexity to predict the criteria of creative achievement and wisdom.

Creative and wise people have in common an interest in the use of their cognitive and affective resources to approach the mysteries and uncertainties of life. This implies an openness to the nonobvious, unconventional, and irrational. However, the making of a new, different, and esthetically stimulating product is more salient in conceptions of creativity than of wisdom, whereas balanced judgment and skillful and undistorted appraisal of meaning is more salient in conceptions of wisdom (Sternberg, 1985). Intelligence is seen as related to both creativity and wisdom, although more to wisdom (Sternberg, 1985). Whereas the creative individual is often portrayed as youthful, autonomous, ambitious, and impassioned (e.g., Collins & Amabile, 1999; Feist, 1999; Hillman, 1972), the wise individual is conceived as an older person who has transcended ego-centrism and has a well-integrated personality (Erikson, 1968; Kohut, 1966; Orwoll & Perlmutter, 1990). Wise people are both experienced and good at evaluating experience; they understand their fellow mortals, feel kindly toward them, and are able to give them good advice (Clayton & Birren, 1980; Staudinger & Baltes, 1994; Sternberg,

1985). These traits are not seen as characteristic of creative individuals (e.g., Simonton, 1999a). The creative personality is dynamic; the wise personality is balanced and virtuous (Baltes & Staudinger, 2000; Sternberg, 2001).

One purpose of this article is to explore how well these conceptions of creative and wise people compare with characteristics attributed by observers to individuals scoring as creative or wise on the basis of performance or life criteria. The sample that we examined was from the Mills Longitudinal Study. Criterion measures were obtained in mature middle age, at age 52 for creativity, at age 61 for wisdom. At age 43, the women provided sufficient open-ended data for raters to Q-sort them; these observer data will be used to test hypotheses about similarities and differences in creative and wise personality. The women have provided personality data in multiple assessments since they were tested as college seniors in 1958 or 1960, and we will use these data to examine the adult development of creative and wise individuals.

IDENTIFYING CREATIVE AND WISE INDIVIDUALS

What is considered a creative or wise personality may be expected to differ according to context and definition. For example, in some research, the criterion of creativity is high scores on originality of products (O'Quin &

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Besemer, 1999), whereas in other research, the criterion is achievement or reputation (e.g., Simonton, 1999b). Lay views of creative personality in the West generally assume the creative achiever, and in this article, we use a measure of creative attainment in one's occupation (Helson, Roberts, & Agronick, 1995) as our criterion variable.

Similarly, discussions of wisdom deal with different kinds of knowing and show different conceptions of people who are wise. For example, social or practical knowledge has long been distinguished from spiritual or transcendent knowledge (e.g., Assmann, 1994; Wink & Helson, 1997). The wise person may be conceptualized as one who has expert knowledge of what is important and how things work, whether in a restricted domain or in the "fundamental pragmatics of life" (Baltes & Smith, 1990, p. 95). Alternatively, the wise person may be regarded as the product of successful adult development, one who has developed cognitive-affective and integrative skills with age (e.g., Labouvie-Vief, 1990; Sinnott & Cavanaugh, 1991) or has reached an advanced stage of personality development (e.g., Erikson, 1968). In this study, we identify persons who are "experts" in wisdom in the sense that they score higher than their age-mates on a composite of performance criteria, but we also examine the adult development of these individuals.

SIMILARITIES AND DIFFERENCES IN CREATIVE AND WISE PERSONALITY

We will first test our hypotheses about personality characteristics that are common to and distinguish creative and wise individuals: Observer descriptions of the women should show, consistent with the implicit theories and research literature previously reviewed, that both creative achievement and wisdom were associated with indices of openness and complexity (including intelligence) but that creative achievement was more associated with openness in the form of originality and unconventionality as well as with ambition and independence, whereas wisdom was more associated with openness in the form of meaning-making (interest and ability in finding undistorted patterns of meaning) as well as with benevolence. We also hypothesize that these assumed similarities and differences at age 43 were expressed in the women's value-related interests and behaviors in their early 60s, as assessed by the Ryff scales (1989) for positive mental health.

PERSONALITY ANTECEDENTS AND DEVELOPMENT RELATED TO CREATIVITY AND WISDOM

We then test hypotheses about antecedents and development in creative and wise personality. Longitudinal

study of creative personality in adulthood has generally emphasized consistency (e.g., Dudek & Hall, 1991; McCrae, 1999), along with some evidence of change with age or life situation (Getzels & Csikszentmihalyi, 1976). In the Mills Study, Helson et al. (1995) showed that creative traits at age 21 predicted creative achievement at age 52, but also that creative achievers increased in level of effective functioning over this period relative to other women. Helson and Pals (2000) showed that creative achievement was associated with identity integration and with relative increase in socially adaptive forms of openness and complexity.

Prevailing conceptions of wisdom assume gradual development and integration of personality, although some research suggests that older people are no wiser than younger people (e.g., Staudinger, Smith, & Baltes, 1992) and do not rate themselves as wiser (Orwoll & Perlmutter, 1990). In view of the fact that there is virtually no literature on the development of wise personality, we make our hypotheses simple.

For both creative and wise personality, we predict continuity in the traits that we expect to be distinctive for them in the Q-sort findings: openness, unconventionality, ambition, autonomy for creative achievement, and openness and benevolence for wisdom. We use growth curve models to show whether these traits, as assessed by the California Psychological Inventory (CPI) (Gough & Bradley, 1996), were significant antecedents of creative achievement and wisdom at age 21.

To study personality development, we examine slopes from ages 21 to 61 in the same growth curves. We hypothesize first that creative achievement was associated with increase in adjustment on the grounds that initial questioning of rules and procedures (unconventionality) followed by persistent and successful work toward creative goals would lead to improved social integration. This pattern has been reported for other career women in fields and at times when only unconventional young women aspired to careers (Cartwright & Wink, 1994). Second, because of the emphasis on experience and knowledge of the world as important sources of wisdom (e.g., Staudinger & Baltes, 1994), we hypothesize that wisdom was associated with increased awareness of and capacity for status. Finally, testing and extending some of the findings of Helson and Pals (2000), we hypothesize that the interests and lifestyles associated with both creative achievement and wisdom led to continued growth in socially adaptive forms of openness and complexity involved in the women's work. For creative achievers, we will examine the desire and ability to achieve self-chosen goals under unstructured conditions; for wise individuals, we will look at skill in understanding the feelings of others.¹

LIFE PATH INFLUENCES DISTINGUISHING THE DEVELOPMENT OF CREATIVITY AND WISDOM

Assuming that openness and complexity are enduring characteristics that predict both creativity and wisdom, are there features of life path that grow out of openness and complexity and contribute additionally to the prediction of one but not the other? Research shows that creative activity in high school predicts creativity in college (e.g., Wallach & Wing, 1969) and that creative achievers love their work and are identified with what they do (Collins & Amabile, 1999). A reasonable hypothesis, then, is that investment in creative activity in the first years after college would support an identity as a creative person and would be an important factor in the choices and commitments that led to creative achievement by midlife.

As for wisdom, several studies suggest that special experiential contexts, such as employment in occupations that involve thinking about difficult life problems (e.g., psychotherapy or the ministry), may facilitate the development of wisdom (Baltes, Staudinger, Maercker, & Smith, 1995; Staudinger, Maciel, Smith, & Baltes, 1998; Staudinger et al., 1992; Wink & Helson, 1997). The motivation to enter such occupations presumably includes a desire to understand oneself and the meaning of one's life (a manifestation of openness and complexity) as well as the desire to help others, then the ensuing experience in the occupation provides "training" in wisdom.

We propose that to become creative or wise, one needs to make a behavioral commitment that gives shape to one's openness and complexity. We test a structural equation model that begins with a measure of openness and complexity at age 21 and adds behavioral commitments in specific domains. We predict that openness and complexity relates both to creative activity in young adulthood and to a career in the area of psychological or spiritual counseling or training, then that creative activity in young adulthood will combine with openness/complexity to predict creative achievement (but not wisdom) and a career in the area of psychological or spiritual counseling will combine with openness/complexity to predict wisdom (but not creativity).

OVERVIEW

In sum, we first test hypotheses about personality characteristics associated with creative achievement and wisdom at midlife, then about personality antecedents and change in personality characteristics from ages 21 to 61, and finally about kinds of career experience that add and combine differently with initial openness and complexity to predict creative achievement and wisdom.

METHOD

Sample

In 1958 and again in 1960, a representative two thirds of the senior class (total $N = 141$) at Mills College, a private women's college in Oakland, participated in a study of personality characteristics and plans for the future among college women. Follow-ups of the sample were conducted when they were, on average, age 27 (1963-1964), 43 (1981), 52 (1989), and 61 (1998). Follow-ups were conducted primarily by mail except at age 61, when most participants came to the Institute of Personality and Social Research for a day of interviews and testing. In terms of the CPI, N s were 141 at age 21, 99 at age 27, 108 at age 43, 105 at age 52, and 110 at age 61.

*Measures**CRITERION MEASURE OF CREATIVITY (AGE 52)*

The Occupational Creativity Scale (OCS) (Helson et al., 1995) was developed to assess creative achievement in a vocationally heterogeneous sample. It used Holland's (1985) extensive work on personality, environment, and vocational careers, especially his rank-ordering of the likelihood that careers in six vocational areas would call for creative performance: artistic (most likely), investigative, social, enterprising, realistic, and conventional (least likely).

To score creative achievement in the Mills sample at age 52, Helson et al. (1995) first assigned scores from 1 (low) to 3 (high) on the basis of the women's occupations. (For details, see Helson et al., 1995.) All women in artistic and investigative occupations were given a base score of 3. They included artists, performing musicians, composers, dancers, choreographers, writers, journalists, psychotherapists, policy-makers, research workers, and professors. Some of these women were advanced to scores of 4 or 5 on the basis of their creative productivity and the amount of recognition and status they had received for creative work. OCS ratings by two psychologists showed a correlation of .92. Scores of Mills women at age 52 were significantly correlated with a variety of antecedent measures, including nomination by faculty for creative potential and various inventory, interest, and observer measures of originality at age 21.

CRITERION MEASURE OF WISDOM (AGE 61)

The criterion of wisdom was a composite of z scores of three observer-scored measures from the age-61 assessment: practical and transcendent wisdom, both from Wink and Helson (1997), and a wisdom task modified from Baltes et al. (1995).

Practical wisdom. This is a 17-item scale based on a person's description by self or others via the Adjective Check

List (ACL) (Gough & Heilbrun, 1983). Wink and Helson (1997) asked a panel of psychologists to select adjectives from the ACL that were indicative and contra-indicative of wisdom, using their common understanding of the characteristics of a wise person as manifested in everyday life. Indicative adjectives include clear-thinking, fair-minded, insightful, mature, realistic, and understanding. Alphas for self-reported ACLs of men and women of a community sample were .78 (men) and .75 (women); alphas in the Mills sample were comparable. In this study, practical wisdom was scored from ACLs that were filled out for each participant by interviewers after an interview lasting 2 to 3 hours.

Transcendent wisdom. Ratings were made of replies to a question that entailed the articulation of wisdom that had been important to the participant. As described by Wink and Helson (1997), a rating of 5 indicated that the response had an abstract quality, suggesting that it transcended the personal, was insightful (not obvious), recognized complexity and the limits of knowledge, showed integration of thought and affect, and showed philosophical or spiritual depth. A rating of 3 indicated a response that described a familiar aspect of wisdom, such as the need for patience or self-reliance, often in a restricted personal context. A rating of 1 indicated a response that showed extreme self-centeredness, bitterness, or clear inability to deal with the question. These protocols were rendered anonymous and rated independently by two psychologists with an alpha of .90.

Wisdom task. The wisdom task required the participant to give advice about how to respond to a telephone call from a friend who had decided to commit suicide. It was one of a set used by Baltes et al. (1995) to study wisdom as expert knowledge in the fundamental pragmatics of life. Unlike a life management task also used in their study of wisdom, Baltes et al. found this one to show no advantage for clinical psychologists as compared with a sample of wise nominees who were not psychologists. In the Mills Study, the administration of the task was modified (e.g., responses were written rather than oral) and the dimensions that were rated were somewhat different from those used by the Baltes group. Responses were rated by two psychologists on a 5-point scale for cognitive differentiation, procedural knowledge, emotional understanding, and moral complexity; our analyses were based on the sum of these four ratings. Alpha reliabilities on these dimensions ranged between .80 and .96.

Validity of the wisdom composite. All three components have been previously validated separately (Baltes et al., 1995; Wink & Helson, 1997). The three components of the composite were significantly correlated with each other, with r s ($N = 94$) ranging between .39 and .45; this suggested that they assessed overlapping but distinct

aspects of the broad construct of wisdom. The literature suggests that wisdom should be moderately correlated with intelligence and creativity (Sternberg, 1985) and with ego development (see Wink & Helson, 1997). In this sample, the composite showed correlations of .25 ($N = 93$), $p < .02$, with SAT verbal scores obtained from college records; .26 ($N = 94$), $p < .02$, with creative achievement at age 52; and .38 ($N = 75$), $p < .001$, with the Sentence Completion Test (SCT) measure of ego development (Loevinger & Wessler, 1970), obtained at age 43.

In sum, the high-scorer on the wisdom composite was described by her interviewer as having traits that judges had selected as indicating wisdom in everyday life, was able to formulate at least a partial philosophy of life that transcended ego concerns, and had the cognitive-affective skills to give wise advice.

Q-SORT DESCRIPTIONS (AGE 43)

The California Q Set (CAQ) (Block, 1978) consists of 100 items about personality functioning covering a broad range of domains; items are sorted according to a nine-step normal distribution. Extensive open-ended questionnaire material provided by the Mills women at age 43 enabled a panel of judges to rate 103 participants. Each case was sorted by three judges drawn from a pool of nine clinical or personality graduate students or PhDs; in a few cases where agreement was insufficient, one or two additional judges were added so that the coefficient alpha reliability across items for that case reached or exceeded .70. The average reliability for the CAQ ratings was .75. (For details of the procedure and its reliability in the Mills sample, see York & John, 1992.) The Q sorters were blind to inventory scores, and the sorts represented the rater's integration of information from 30 pages of open-ended material and ratings by the woman describing many areas of her life.

To test hypotheses about characteristics of creativity and wisdom, a panel of psychologists, most of whom had conducted research on creativity or wisdom,² was asked to choose from the 100 items of the Q sort approximately 5 that were descriptive of each of these sets of characteristics: originality, unconventionality, and esthetic sensitivity; ambition, perseverance, and autonomy; meaning-making (interest and ability in finding undistorted patterns of meaning); and benevolence and interpersonal accessibility. Items selected by at least three of the eight judges specific to each category are shown in Table 1. Also shown in Table 1 are two items relevant to intelligence.

CALIFORNIA PSYCHOLOGICAL INVENTORY (CPI)

The CPI (Gough & Bradley, 1996) was administered to the Mills sample at each time of testing. This widely used personality inventory consists of 20 folk concept

TABLE 1: Q-Sort Measures of Characteristics Hypothesized to Characterize Creative and Wise Individuals

Observer-Rated Q-Sort Items	Creativity r	Wisdom r
Originality, unconventionality, esthetics		
*Thinks and associates in unusual ways (8)	.60	.31
*Esthetically responsive (8)	.49	(.10)
*Judges in a conventional manner (R) (6)	.54	.39
Rebellious and nonconforming (R) (5)	.40	.29
*Favors conservative values (R) (5)	.54	.41
*Is an interesting, arresting person (4)	.64	.39
Composite	.65 ^a	.40 ^b
Ambition, perseverance, and autonomy		
*Has high aspiration for self (8)	.55	(.18)
*Values own independence, autonomy (8)	.40	.27
*Gives up under adversity (8)	.41	.29
*Genuinely submissive (R) (5)	.43	.28
*Reluctant to make commitments (R) (5)	.45	(.11)
Is productive, gets things done (5)	(.12)	(-.06)
Behaves in an assertive fashion (3)	.23	(.11)
Composite	.49 ^a	.21 ^b
Meaning-making		
*Concerned with philosophical questions (8)	.30	.48
*Is introspective (5)	.33	.55
*Sees to the heart of important problems (4)	.30	.43
Feels a lack of personal meaning (R) (4)	(.19)	(.14)
*Has insight into own motives (3)	.38	.54
Evaluates the motives of others (3)	(.04)	.25
Genuinely values intellectual matters (3)	.36	.33
Composite	.46 ^a	.64 ^a
Benevolence, interpersonal accessibility		
*Has warmth and compassion (7)	(.12)	.39
*Behaves in a sympathetic manner (7)	(.00)	.36
Is turned to for advice (7)	(-.01)	.26
Keeps people at a distance (R) (6)	(.12)	.32
*Behaves in a condescending manner (R) (4)	(.04)	.43
Behaves in a giving way to others (3)	(-.09)	.25
Is straightforward, candid (3)	(.05)	(.13)
Composite	(.05) ^a	.40 ^b
Intelligence		
Has high intellectual capacity	.30	.30
*Is verbally fluent	.29	.39

NOTE: $N = 85$. Items listed (except the two intelligence items) were selected by judges as pertinent to each category; (R) indicates reverse-scored items. The number of judges selecting each item is in parentheses. Composite correlations were compared using Formula 2.8.8 from Cohen and Cohen (1983) for the difference between dependent correlations; significantly different correlations (at $p < .05$) within a row have different superscripts. All correlations are significant ($p < .05$) except those in parentheses. An asterisk before the item indicates that it was one of the items most strongly correlated with either or both creative achievement or wisdom.

scales that map broadly onto the domains of social poise and assurance, impulse control, and openness and complexity. In addition, scales for Haan's (1977) constructs of affective and cognitive coping or defending can be scored from the CPI (Joffe & Naditch, 1977). For this study, we are concerned with characteristics hypothesized to characterize or distinguish creativity and wisdom. The following descriptions of scales are taken from Gough and Bradley (1996) or Haan (1977):

Openness and complexity. We assess these characteristics at different levels and in different manifestations. First, we use two Haan scales to measure processes underlying openness (low repression) and complexity (high tolerance of ambiguity). These scales were used as indicators in the structural equation model. To assess different socially developed aspects of openness and complexity, we used the Empathy, Achievement via Independence, and Psychological Mindedness scales. High-scorers on empathy use an outgoing emotional intelligence in understanding others. High-scorers on achievement via independence choose settings that encourage individual initiative. High-scorers on psychological mindedness use a disciplined and somewhat detached intuition in judging how people feel and think about things.

Ambition and autonomy. The Capacity for Status and Independence scales were used to assess ambition and autonomy. High-scorers on capacity for status are socially perceptive, ambitious, and view themselves as important. High-scorers on independence are independent, confident, determined, and capable, with some connotations of nonaffiliativeness.

Benevolence. The Tolerance scale was used to assess benevolence. High-scorers on this scale are tolerant of the beliefs and values of others even when counter to their own.

Rebelliousness, adjustment, and social integration. To assess resistance to social norms and feelings of uniqueness, we used the Socialization and Communitality scales. Low-scorers on socialization find it difficult to accept rules and regulations, and low-scorers on communitality see themselves as different from others and do not like to take on duties and responsibilities. High scores on responsibility and well-being were used as indicators of social integration and adjustment. High-scorers on responsibility are willing to accept responsibility and show good judgment and maturity in dealing with others. High-scorers on well-being are optimistic and feel in good physical and mental health.

POSITIVE MENTAL HEALTH (AGE 60)

Short forms of Ryff's (1989) scales for positive mental health were sent to the Mills women in a mail-out that preceded the age-61 assessment. The scales are Environmental Mastery, Personal Growth, Autonomy, Positive Relations With Others, Purpose in Life, and Self-Acceptance. The first two scales were assessed with six items, the others with three; items were chosen on the advice of Ryff (personal communication, December 1996).³

LIFE PATH VARIABLES

Creative achievement by age 27. The Mills women provided information about their activities in the first 5 years after college. Amount of creative achievement over

this period was rated reliably on a 7-point scale (Helson, 1967).

Career involving psychological or spiritual counseling. Thirteen women in the sample were psychological or spiritual therapists or counselors; participants were coded as 0 or 1 depending on whether they had such careers. Seven women had at least begun studies in these fields by age 27; 6 began studies or work after age 43.

Analyses

PERSONALITY ANTECEDENTS AND CHANGE

To study antecedents and change, we analyzed growth curve models of CPI scales using a multilevel modeling approach. The CPI was administered at ages 21, 27, 43, 52, and 61.

In the first level of the growth curve models, each participant's scores on the CPI scale being analyzed were modeled in a within-person regression, with the predictor variable being time since the first assessment (at age 21). Thus, each individual had an intercept representing their age-21 status and a slope representing change on the CPI scale.

At the second level, two between-person regression equations modeled the intercepts and slopes, respectively, as a function of both creative achievement and wisdom. In the equation modeling the intercepts, the coefficient for creativity (or wisdom) indicated its relation to the CPI scale at age 21. In the equation modeling the slopes, the coefficient for creativity (or wisdom) indicated its relation to the rate of change on the CPI scale. We report effects in raw metrics.

Analyses were done in SAS PROC MIXED (Singer, 1998) using maximum likelihood estimation. Participants were included in the analysis if they completed the CPI at age 21 and at age 52 or 61. Of the 92 participants included in the analysis, 71% had data from all five time points, 26% were missing data from one time, 3% were missing data from two times, and none were missing data from three times.

PATHS TO CREATIVITY AND WISDOM

The structural equation model of early openness, domain-specific behavioral commitments, and creativity and wisdom was estimated in Amos 4.0 (Arbuckle, 1999) using maximum likelihood estimation. For latent variables with one indicator, the indicators' error variances were fixed to zero to identify the model (see Maruyama, 1998). Cases were included in the analysis if they had data for at least one indicator per latent variable, resulting in an N of 83. Of these participants, 88% had complete data for every variable, 6% were missing one data point, and 6% were missing two data points. The results did not change substantially under other missing data schemes (i.e., full listwise deletion or full inclusion).

RESULTS

Characteristics Associated With Creative Achievement and Wisdom

Q-SORT FINDINGS AT AGE 43

Using the wide content coverage of the 100 items of the CAQ, we tested our hypotheses about personality characteristics distinctive to either or both creative and wise people. Table 1 lists the items selected by judges to assess these characteristics and shows how each item and each set of items were correlated with creative achievement and wisdom.

Two categories of items were expected to be particularly salient in the creative achiever: originality and ambition. The six Q-sort items that the judges selected to assess originality, unconventionality, and esthetic interests are shown first in Table 1. Creative achievement and wisdom both show correlations that are almost all significant, but those for creative achievement are higher in every case. A composite of these six Q-sort originality items correlated .65 with creative achievement and .40 with wisdom. The former correlation was significantly greater than the latter, $t(82) = 2.50, p < .05$ (Cohen & Cohen, 1983, Formula 2.8.8), indicating that originality was more strongly associated with creative achievement than with wisdom. Ambition was measured by seven items: Creative achievement had significant correlations with six items, wisdom with 3 items. A composite of the ambition items correlated .49 with creative achievement and .21 with wisdom. The difference between these correlations was significant, $t(82) = 2.38, p < .05$.

Next in Table 1 are the two categories of items selected to assess characteristics expected to be more prominent in wise individuals: meaning-making and benevolence. Of the seven items selected to assess meaning-making, most are significantly correlated with both creative achievement and wisdom, but the correlates of wisdom are generally higher. A composite of the meaning-making items correlated .46 with creative achievement and .64 with wisdom. The difference between these correlations showed borderline significance in the two-tailed test, $t(82) = 1.80, p < .08$. Of the seven items selected to assess the benevolence category, six are significantly correlated with wisdom, none with creative achievement. A composite of the benevolence items correlated .05 with creative achievement and .40 with wisdom; these correlations were significantly different, $t(82) = 2.86, p < .01$. Finally, note in Table 1 that the two items reflecting high intelligence were significantly correlated with both creativity and wisdom, consistent with the notion that these are three distinct but overlapping characteristics (Sternberg, 1985).

Overall, the data suggest that the characteristics examined in Table 1 not only apply to or distinguish cre-

TABLE 2: Growth Curve Analyses Showing the Relation of Creative Achievement and Wisdom to Age-21 Status and Change on California Psychological Inventory (CPI) Scales

CPI Scale	Growth Curve Intercept (initial status at age 21)			Growth Curve Slope (change from age 21 to 61)		
	Estimate	Creativity Coefficient	Wisdom Coefficient	Estimate	Creativity Coefficient	Wisdom Coefficient
Basic openness						
Repression	11.366 (0.256)	-0.867* (0.258)	-0.759* (0.335)	-0.006 (0.008)	0.005 (0.009)	0.003 (0.011)
Tolerance of ambiguity	18.771 (0.282)	0.979* (0.283)	1.298* (0.367)	0.039* (0.010)	0.007 (0.009)	0.013 (0.013)
Socially adaptive forms of openness						
Empathy	24.603 (0.348)	1.048* (0.349)	0.450 (0.453)	-0.035* (0.009)	-0.007 (0.009)	0.031* (0.011)
Achievement via independence	27.420 (0.298)	0.677* (0.299)	1.019* (0.387)	0.022* (0.010)	0.021* (0.010)	-0.002 (0.013)
Psychological mindedness	18.109 (0.262)	0.547* (0.263)	0.809* (0.340)	0.040* (0.007)	0.009 (0.008)	-0.007 (0.010)
Ambition and autonomy						
Capacity for status	20.396 (0.283)	0.702* (0.283)	0.250 (0.367)	-0.006 (0.008)	0.001 (0.008)	0.023* (0.011)
Independence	19.528 (0.351)	1.113* (0.352)	-0.413 (0.457)	0.036* (0.012)	-0.004 (0.012)	0.014 (0.015)
Benevolence						
Tolerance	24.914 (0.263)	-0.013 (0.264)	0.865* (0.341)	0.027* (0.008)	0.027* (0.008)	-0.006 (0.011)
Accepting versus resisting social norms						
Socialization	33.819 (0.422)	-0.886* (0.423)	0.999† (0.549)	-0.034* (0.012)	0.019 (0.012)	-0.018 (0.016)
Communality	35.171 (0.188)	-0.389* (0.188)	0.058 (0.244)	0.011† (0.006)	0.016* (0.006)	-0.002 (0.008)
Social integration and adjustment						
Responsibility	28.633 (0.310)	-0.281 (0.310)	0.411 (0.402)	-0.000 (0.010)	0.020* (0.010)	0.001 (0.013)
Well-being	33.203 (0.338)	-0.336 (0.339)	-0.415 (0.440)	-0.007 (0.009)	0.026* (0.009)	-0.003 (0.012)

NOTE: $N = 92$. Numbers in parentheses are standard errors. Maximum likelihood estimation was used to derive estimates. Creativity and wisdom were mean-centered; age was centered at 21 so that the growth curve intercepts would indicate status at this age.

† $p < .10$. * $p < .05$.

ative and wise personality but also encompass most of the distinctive features of both. Note that the asterisk in front of an item indicates that it was one of the 13 placed as most salient in descriptions of high-scorers on creative achievement or wisdom or both (in the Q-sort procedure, 13 items are given the highest ratings). The items chosen by judges (in addition to one of the intelligence items) included 11 of the 13 highest correlates of each criterion variable.

ASPECTS OF POSITIVE MENTAL HEALTH AT AGE 60

The Q-sorts were based on data obtained at age 43. To know whether similar and differentiating characteristics of creative and wise personality persisted in the 60s, we examined correlations of the two criterion variables with the six Ryff (1989) scales for positive mental health. Creative achievement and wisdom were both correlated with Sense of Personal Growth, $r(93) = .35, p < .001$, and $.27, p < .009$, respectively. Creative achievement also was correlated with Purpose in Life at a trend level, $.20, p < .06$, whereas Wisdom also was correlated with Positive Relations with Others, $.27, p < .008$. Neither was significantly correlated with Autonomy, Environmental Mastery, or Self-acceptance.

These findings illustrate that openness and complexity continue to characterize both creative and wise indi-

viduals, that creative achievement continues to be associated with aspirations and wisdom with benevolence. Although one might expect that autonomy would be related to creative achievement, this scale, at least in the Mills sample, assesses a somewhat narrow insistence on having one's own way.

Personality Antecedents and Change Related to Creativity and Wisdom

Antecedents. We used growth curve analyses to examine which personality characteristics were predictive of creative achievement or wisdom from age 21. The left half of Table 2 shows the age-21 intercepts from these growth curve models and the relation of creative achievement and wisdom to those intercepts. Our first hypothesis was that both creative achievement and wisdom would be associated with openness at age 21. The basic openness measures at age 21 (Repression and Tolerance of Ambiguity) were related to both creative achievement and wisdom, and the measures of socially adaptive forms of openness (Empathy, Achievement via Independence, and Psychological Mindedness) were all related to creative achievement and the latter two to wisdom.

Other hypotheses also were supported. Ambition and autonomy, as indexed by the Capacity for Status and

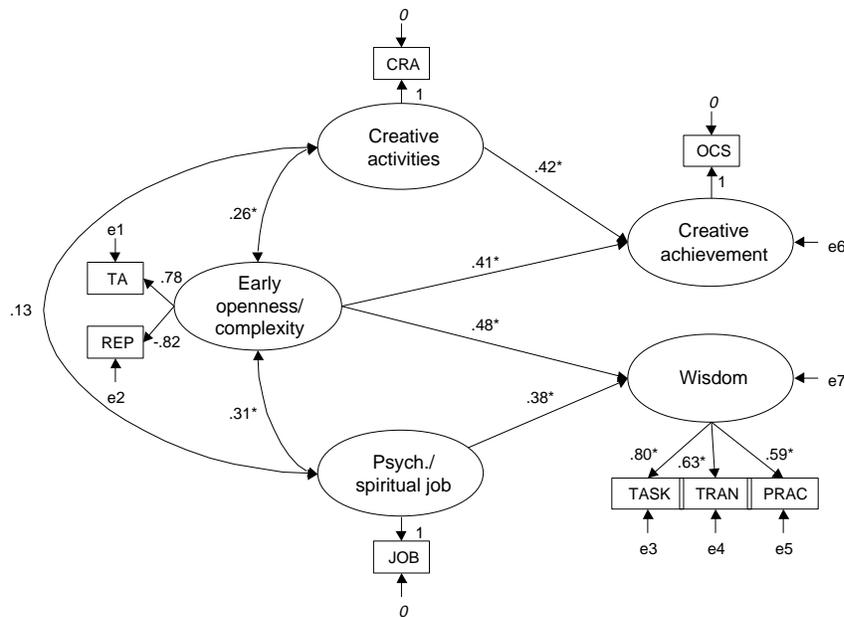


Figure 1 Model showing the relationship between openness/complexity at age 21, activities or work during early to middle adulthood that were hypothesized to promote creativity or wisdom, and criteria of creative achievement or wisdom in late adulthood ($N = 83$).

NOTE: The figure presents standardized coefficients; fixed parameters are in italics. $\chi^2(17) = 22.6$, $p = .16$; normed fit index = .98; root mean squared error of approximation = .063. TA = Tolerance of Ambiguity scale, REP = Repression scale, CRA = creative activities in early adulthood, JOB = employment in psychological or spiritual occupations, OCS = Occupational Creativity Scale, TASK = task measure of wisdom, TRAN = transcendent wisdom, PRAC = practical wisdom.

* $p < .05$.

Independence scales, were related to creative achievement but not to wisdom. Benevolence, as indexed by Tolerance, was associated with wisdom but not with creative achievement. Finally, rebelliousness and lack of social integration, as shown in low scores on the Socialization and Communitary scales, were associated with creative achievement alone.

Change. Our first hypothesis about change was that creative achievers would gain in social integration and adjustment. The raw slopes shown in Table 2 indicate the significant predicted increases on responsibility and well-being. Increases on tolerance and communality were not predicted but fill out the picture of increased social integration. Our second hypothesis was that wise women would increase on the Capacity for Status scale, indicating the increased knowledge of and self-confidence in the social world that would contribute to wisdom. This hypothesis also was supported. Our third hypothesis was that both creative and wise personality would be associated with increase in socially adaptive forms of openness. The slopes shown in Table 2 show that creative achievers increased over time on achievement via independence and that wise women increased on empathy.⁴

Paths to Creativity and Wisdom

We hypothesized that both creativity and wisdom share a common core of openness/complexity but that development toward either outcome requires a behav-

ioral commitment in that domain. As shown in Figure 1, we modeled this hypothesis by using openness/complexity (indicated by repression [reversed] and tolerance of ambiguity) at age 21 to predict both creative achievement and wisdom and adding behavioral indicators that we thought would discriminantly predict only creative achievement or only wisdom. Our overall model fit very well, $\chi^2(17) = 22.6$, $p = .16$, normed fit index = .98, root mean squared error of approximation = .063.⁵ All of the hypothesized paths were significant. The model accounted for 42% of the variance in creative achievement and 45% of the variance in wisdom.

Openness/complexity at age 21 significantly predicted both creative achievement and wisdom to about equal degrees, supporting our idea that openness/complexity is a common core of both. Creative activities in early adulthood predicted creative achievement in later adulthood, as hypothesized, and psychological or spiritual career path predicted wisdom in later adulthood, also as hypothesized. As shown by the coefficients next to the double-headed arrows in Figure 1, the behavioral commitment measures were both associated with openness, but they were not correlated with each other.

In addition to the significance of the hypothesized relationships, we also were interested in evaluating two of the fixed constraints of the model. The behavioral variables were conceptualized as commitments that would give shape to the relatively broad characteristic of

openness; thus, in the model, we specified that there should be no direct relationship between the criterion measure of wisdom and creative activities in early adulthood and that there should be no relationship between the criterion measure of creative achievement and a career involving psychological or spiritual counseling. When we estimated a comparison model with these direct paths included, neither path was significant, and the overall model was not improved by including these paths, $\Delta\chi^2(2) = 0.5, p = .76$. This finding strengthened the notion that the behavioral commitments were truly domain-specific, as implied by the notion of a commitment, rather than being general manifestations of an open and complex personality.

DISCUSSION

The importance of our findings depends on the adequacy of the criterion measures of creativity and wisdom. The creative achievement measure is defined in terms of life data and has been validated by both observer and inventory correlates (Helson et al., 1995). The measures of wisdom also were based on observer data or performance data as appraised by psychologists, but they were based on information obtained only at age 61, making them more vulnerable to transient factors (e.g., depression) that would have attenuated the correlations between wisdom and constructs measured at other times. Furthermore, our composite measure of wisdom may be obscuring findings that, to use Wink and Helson's (1997) terms, apply to practical or transcendent wisdom alone. In spite of these considerations, the wisdom composite performed well. It received validation support from measures of intelligence and ego development. Furthermore, for the measures of both creativity and wisdom, there was strong evidence of convergent and discriminant validity across different methods and times of testing (e.g., the observer Q-sort at age 43 and the self-report Ryff scales at age 60).

Achievement played a very different role in the operationalizations of creativity and wisdom. Why not compare wise personality with some measure of creative personality that did not require evidence of achievement? Previous research has shown that originality and unconventionality have maladaptive aspects in the absence of the integration that is provided by creative aspirations (Helson & Pals, 2000). Aspiration and perseverance seem to be an essential part of creative personality. The findings presented here complement this viewpoint by suggesting that being a seeker after wisdom may be an alternative to creative achievement in giving structure to openness.

We believe that our criteria of creativity and wisdom reflect the very different ways that these characteristics are lived out in our society. Young people with creative

potential are encouraged to actualize their talents, and our society offers many rewards and prizes that help to mark out creative careers in the arts and sciences. There is no comparable social encouragement to become a wise person. Of course, there are a few professions concerned with philosophy, moral knowledge, and guidance. Training in these professions may begin late and take a long time, and entering them may be more or less difficult.

The kind of social attention paid to creativity and wisdom presumably reflects the implicit theories—and realities—about differences in their nature. But creativity and wisdom are also very close. Many artists seek truth, many wise people seek to convey insights in an effective way, and both artists and the wise are often engaged in problem-finding or in transcending prevailing approaches. So it was reasonable that our first undertaking was to compare similarities and differences in creative and wise people.

Comparing Wise and Creative Personality

We turned to the California Q Set for specific descriptors. These items had been used to describe the participants by expert raters, so the descriptions avoid the biases of self-report data. The findings supported our hypotheses: Both creativity and wisdom showed much evidence of openness and complexity, originality being more saliently associated with creativity and meaning-making with wisdom; furthermore, ambition, autonomy, and perseverance were more associated with creativity and benevolence with wisdom. The Q-sort data described the women at age 43. Similar commonalities and differences were found at age 60: Both creativity and wisdom were associated with sense of personal growth, creativity with a sense of purpose in life and wisdom with positive relations with others. Here is evidence to support the idea of greater dynamism in creativity and greater balance in wisdom (Sternberg, 2001).

Personality Antecedents of Creative Achievement and Wisdom

Having demonstrated the personality characteristics associated with creativity and wisdom in middle age, we tested the hypothesis that these characteristics at age 21, as assessed on the CPI, were associated with creativity and wisdom from age 21 to 61. This hypothesis was supported. Both creative achievement and wisdom were consistently associated with all or most of the measures of openness/complexity; creative achievement was consistently associated with ambition, autonomy, and unconventionality; wisdom was consistently associated with tolerance.

*Personality Development Associated
With Creative Achievement and Wisdom*

Our first hypothesis about personality development was that the perseverance and success of the creative achievers would have modified their initial resistance to social norms and procedures, leading to increases in adjustment and social integration. This hypothesis received strong support. Second, because an important source of wisdom is social experience, we hypothesized that wisdom would be associated with increased awareness of and confidence in one's place in society. This hypothesis also was supported. Finally, we expected that the interests and lifestyles associated with both creativity and wisdom would be associated with continued growth in openness and complexity, especially socially adaptive forms of these traits associated with one's occupation, such as being able to work independently on tasks of one's own devising in the case of creative achievers or being open to and skillful in appraising the feelings of others in the case of wise women. We found support for this idea.

The Development of Creativity and Wisdom

We thought that whether a person becomes creative or wise is related to the identities and skills that develop as different life paths are chosen and we tested a model of this process. We found that wisdom and creative achievement in midlife were both built on the foundation of an open and complex personality, which could be identified 30 years earlier. Above and beyond this common foundation, we showed that engaging in creative activity in the first few years after college added significantly to the prediction of creative achievement but not of wisdom and that choosing (early on or later) a psychotherapeutic or spiritual career path added significantly to the prediction of wisdom but not of creative achievement. We interpret these findings to mean that specific life commitments can direct and give shape to an open and complex personality.

Generality of Findings

Our findings have restricted generalizability, in part because creativity and wisdom are both affected by gender and historical context. It seems likely that creative achievers who were White men would have changed less in personality over this period of history than the creative achievers in the Mills Study, who started out in adult life when women had few opportunities in the work world. Gender and historical context also influenced our findings about wisdom. The fact that many women became psychotherapists in the 1970s and 1980s was certainly a factor that shaped the pursuit of wisdom in our sample.

In the case of wise personality, the findings need both replication and amplification because the types or contexts of wisdom are not well understood. The wise woman of this study is a person who has the ability and desire to think about life and its problems in a wise way. Her wisdom is not necessarily an aspect of ideal balance or ideal development, as in some conceptions of wise personality, but a value and need. Her desire to make accurate assessments sometimes led to comments from interviewers suggesting a meaning-making that was excessive: "This woman analyzed every question I asked." The need to find meaning may point to early emotional ambivalence or lack of certainty about oneself and one's relation to others, somewhat as the high aspirations of the creative achievers suggest narcissistic features of personality. The central findings of this study are, first, that what we might refer to as cognitive-affective vitality is an essential component of both creativity and wisdom. This cognitive-affective vitality in combination with high aspirations and autonomy characterized creative individuals, and in combination with benevolence it characterized wise individuals. The essential characteristics of creative and wise personality were evident by the college years, but subsequent behavioral commitments led in different directions and there was further personality growth over young and middle adulthood.

NOTES

1. Where relevant in this article, we refer to three previous articles (Helson et al., 1995; Helson & Pals, 2000; Wink & Helson, 1997) that developed or used our criteria of creative achievement or wisdom in the Mills Study. We have used this former work in building our hypotheses, but repetition is minimal. For example, the highest Q-sort correlates of creative achievement were reported in Helson et al. (1995), but in the present article, judges selected Q-sort items to assess predicted traits characteristic of or differentiating creativity and wisdom. Previous articles addressed issues of antecedents and change, but these are complex topics with many aspects, and this article adds new data from the age-61 assessment and uses new analyses.

2. We thank our expert judges: Gail Agronick, Kenneth Craik, Wallace Hall, Coline McConnel, Gerald Mendelsohn, Jennifer Pals, Betsy Paluck, and Paul Wink.

3. Items available from the authors by request.

4. Using a regression design instead of growth curves, a larger sample, and data from ages 21 and 52, Helson and Pals (2000) found change significantly associated with creative achievement on two measures of openness/complexity shown in Table 2 (tolerance of ambiguity and psychological mindedness) that did not reach significance in our study.

5. Because prior literature indicates that creativity and wisdom have some overlapping features (e.g., Sternberg, 1985), we also tested an expanded model in which the disturbances of creative achievement and wisdom (e6 and e7 in Figure 1) were permitted to covary. The more restricted model implies that the overlap is fully explained by early openness/complexity; the expanded model implies that other (unmeasured) factors also contribute to the overlap. Model improvement was marginal ($p = .09$), so we retained the more restricted model, although sample size made us hesitant to draw strong conclusions. Fit of the expanded model was $\chi^2(16) = 19.6$, $p = .24$, normed fit index (NFI) = .98, root mean squared error of approximation (RMSEA) = .052; all main hypotheses were confirmed in this model as well.

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