Journal of Personality ••:••, •• 2015
© 2014 Wiley Periodicals, Inc.
DOI: 10.1111/jopy.12160

Wisdom and Psychosocial Functioning in Later Life

Paul Wink[1] and Ursula M. Staudinger[2]
[1]Wellesley College
[2]Columbia University

Abstract

We investigated the connection between wisdom-related performance, personality, and generativity to further the understanding of how they are interrelated. Our sample consisted of 163 men and women 68–77 years of age, mostly White, and predominantly middle class. Wisdom was assessed with the performance-based Berlin Wisdom Paradigm, with the remaining measures being mostly self-report. As hypothesized, on the zero-order level, wisdom-related performance (WRP) was positively associated with (a) *growth*, a personality component indexed by Openness to Experience, psychological mindedness, and a sense of well-being derived from growth, purpose in life, and autonomy; (b) *adjustment*, a personality component associated with life satisfaction, high levels of Agreeableness and Conscientiousness, low Neuroticism, a sense of well-being derived from positive relations with others, self-acceptance, and environmental mastery; and (c) a *generative* concern for the welfare of others. Latent path analysis indicated that the bivariate associations between adjustment and wisdom and between generativity and wisdom were mediated by growth. Wise individuals are characterized by their ability to balance different personal strengths and interests, an integration that occurs, however, within the context of a dominant personality style marked by the pursuit of maturity through personal growth.

Wisdom depends on the perfect integration of mind and virtue or character (Baltes & Staudinger, 2000; Sternberg, 2004). Modern personality psychology's conceptualization of wisdom is not easily translated into empirical constructs, and recent years have witnessed an increasing number of studies using a wide range of measures (cf. Staudinger & Glück, 2011). Here we used the Berlin Wisdom Paradigm (Baltes & Staudinger, 2000), which is a performance-based measure that conceptualizes general wisdom as expert judgment in the area of fundamental pragmatics of life (e.g., Baltes, Smith, & Staudinger, 1992) and measures it as wisdom-related performance (WRP; Staudinger, Smith, & Baltes, 1994). Numerous studies have reported on the relationship between WRP and a wide array of psychosocial and cognitive characteristics. The present article expanded that literature by investigating the relationship between WRP in later life and (a) two recently described components of positive personality functioning, that is, adjustment and growth (e.g., Staudinger & Kessler, 2009; Staudinger & Kunzmann, 2005), and (b) generativity, the concern for the welfare of future generations that gains in prominence in the second half of adulthood (e.g., Erikson, 1950; McAdams & Logan, 2004).

Wisdom: The Prototype of Positive Functioning

The good judgment associated with wisdom is presaged on insight into the self, others, and the world; integration of various aspects of personality; recognition of life's complexities and willingness to compromise; and the ability to transcend self-interests (Ardelt & Jacobs, 2009; Grossmann, Na, Varnum, Kitayama, & Nisbett, 2013; Levenson, Jennings, Aldwin, & Shiraishi, 2005; Staudinger & Glück, 2011). These characteristics contribute to positive functioning throughout adulthood, including a sense of equanimity in old age (Erikson, 1950).

In more than 20 years of research, the Berlin Wisdom Paradigm has provided reliable and valid information about individuals' WRP. Evidence has accrued in support of an ontogenetic model of wisdom that links the development of general wisdom to antecedent life experiences (due to historical period, age, profession, etc.; Staudinger, Maciel, Smith, & Baltes, 1998; Staudinger, Smith, & Baltes, 1992), cognitive abilities, personality characteristics, and social-cognitive features (Staudinger, Lopez, & Baltes, 1997). General wisdom, as assessed by the Berlin Wisdom Paradigm, is related to, but distinct from, intelligence, personality, cognitive style, creativity, social intelligence, and moral reasoning (Pasupathi & Staudinger, 2001; Staudinger et al., 1997). Uncertainty persists, however, concerning the exact nature of positive

Both authors contributed equally to the research and authorship of this article.

We would like to thank Michael Suvak for help with the statistical analyses.

Correspondence concerning this article should be addressed to Paul Wink, Department of Psychology, Wellesley College, Wellesley, MA 02481. Email: pwink@wellesley.edu.

functioning related to wisdom, with some researchers emphasizing the centrality of tolerance, psychological mindedness, and growth (e.g., Staudinger & Glück, 2011), whereas others privilege adjustment and life satisfaction (e.g., Ardelt & Jacobs, 2009). In addition, little is known about the relationship between wisdom in general, and WRP in particular, and generativity, a motivational orientation that shares with wisdom a focus on the extension of the self and with personal adjustment and growth an emphasis on communal and agentic interests, respectively (McAdams & Logan, 2004).

Positive Personality Functioning: Adjustment and Growth

There has been debate about the relationship between wisdom and various other indicators of positive personality functioning. Some, for instance, have argued that it is a sign of predictive validity of a wisdom measure if it correlates positively with subjective well-being (e.g., Ardelt & Jacobs, 2009). In contrast, others have argued that the pursuit of wisdom may come with highs and lows, and therefore no systematic relationship with subjective well-being is expected (e.g., Staudinger & Glück, 2011). With regard to the psychometric location of wisdom in the realm of positive personality functioning, the meta-level distinction between personality adjustment and growth may provide theoretically informed structure that helps to locate wisdom within the broad domain of personality and various facets of well-being.

Individuals focusing on adjustment are foremost concerned with mastering the challenges of everyday life within a given society; they contribute to things running smoothly and regard subjective well-being as a particularly important life goal. In contrast, persons focusing on growth focus on insight and balancing one's own good with that of others. As a result, "in contrast to adjustment, the gist of growth is not the mastery of given structures and procedures but their transcendence" (Staudinger & Kessler, 2009, p. 243). The majority of adults adheres to the adjustment trajectory, as this mode of functioning is vital to societal productivity and is emphasized and rewarded by social institutions, including the educational system, religious institutions, and the labor market (Dillon & Wink, 2007; Staudinger & Kessler, 2009). However, in order not to stagnate, society also needs a proportion of its members to be characterized by a growth trajectory marked by skepticism of the status quo and a focus on innovation and change.

This distinction between personality adjustment and growth cuts across the usual perspectives on personality functioning as reflected in the Big Five rooted in a trait tradition (e.g., McCrae & Costa, 1990), the six scales of psychological well-being based in a personality change and growth tradition (e.g., Ryff, 1989), and measures of subjective well-being (Diener, Emmons, Larsen, & Griffin, 1985). It relates Agreeableness, Conscientiousness, and Emotional Stability; life satisfaction and well-being derived from environmental mastery; and self-acceptance and positive social relations to personality adjustment and openness to new experience, and well-being from autonomy, personal growth, and purpose in life to personality growth.

Associating Agreeableness, Conscientiousness, and Emotional Stability with adjustment and Openness with growth is similar to the distinction between the two higher-order Big Five factors of socialization and personal growth (Digman, 1997) or the one between stability and plasticity (De Young, 2006). Staudinger's model, however, excludes Extraversion from growth because of its positive association with subjective well-being (cf. Staudinger & Kunzmann, 2005).

Wisdom and Personality Growth

According to Staudinger and Kunzmann (2005), individuals whose personality involves an emphasis on growth rather than adjustment also show higher levels of WRP. This is the case because the growth trajectory is associated over the life course with increasing complexity of feeling and thinking, the capacity to balance the needs of the self with those of others, and continued questioning of the given, all of which contribute to the acquisition of a nuanced perspective on life and a bounded relativism of judgment that are the hallmarks of wisdom.

There is empirical support for the link between wisdom and personality growth. As predicted by the ontogenetic model of wisdom (Staudinger & Baltes, 1994), performance-based measures of general and personal wisdom are positively related to ego development, openness to experiences, psychological mindedness (i.e., an interest in understanding psychological issues), and a sense of well-being based on finding a purpose in life and on personal growth (Mickler & Staudinger, 2008; Staudinger et al., 1997). Similarly, there is a positive relationship between two distinct measures of wisdom and ego development, insight, and psychological mindedness: Practical wisdom was assessed by a self-report scale, and transcendent wisdom was scored by coding wisdom narratives (Wink & Helson, 1997). The study also found a positive association between wisdom and an observer-based rating of autonomy as indicated by an interest in intellectual and artistic pursuits, unconventionality of thinking, and high self-aspiration, all of which are likely to help an individual transcend the confines of social role expectations. Openness to Experience is central to Glück and Bluck's (2013) model of wisdom, as wise individuals evaluate experiences using multiple perspectives and show an interest in learning from their own experiences and those of others. A positive relation between wisdom and personal growth has also been reported by Webster (2010) using his Self-Assessed Wisdom Scale (SAWS), a measure that assesses five domains of functioning deemed central to wisdom.

Wisdom and Personality Adjustment

We assume that a normal—in the sense of average—level of personality adjustment is a necessary but not sufficient condi-

tion for progress on the growth trajectory and, in turn, for attaining higher levels of wisdom. Thus, we expected the relationship between WRP and personality adjustment to be modest.

Emotional Stability, Agreeableness, and Conscientiousness have been found to be unrelated to WRP (Staudinger et al., 1997). Further, WRP and several other measures of wisdom were demonstrated to be unrelated to life satisfaction (Wink & Helson, 1997) or pleasant affect (Grossmann et al., 2013; Webster, 2010), other key markers of adjustment. These findings support the contention that because wise individuals embrace both the positive and negative aspects of life and self (and may be subject, at times, to constructive melancholy; Kunzmann & Baltes, 2005), they are unlikely to have a particularly high, or a particularly low, level of life satisfaction.

According to Ryff's (1989) model of psychological well-being, adjustment tends to be associated with an emphasis on creating a favorable external milieu (*environmental mastery*) and maintaining a positive attitude toward the self (*self-acceptance*). In contrast, growth and wisdom are more likely to be associated with a firm sense of meaning (*purpose in life*) and a continued desire to expand as a person (*personal growth*; Staudinger & Kessler, 2009). Previous empirical evidence has supported this view (Mickler & Staudinger, 2008; Schmutte & Ryff, 1997; Staudinger et al., 1997; Webster, 2010). In addition, Purpose in Life, Personal Growth, and Autonomy are the only three scales of Ryff's measure that are positively related to Openness to Experience (Schmutte & Ryff, 1997).

Comparatively little is known about the relation between wisdom and *positive relationships*, another dimension of psychological well-being. It is assumed that wise individuals will show compassion and empathy as part of their tendency to balance the needs of the self with those of others. In this vein, a positive relation between WRP and other-enhancing values, including a concern with the well-being of friends, was reported (Kunzmann & Baltes, 2005). We assumed, however, that optimizing the positivity of a relationship was related to personality adjustment rather than growth or wisdom because it may imply avoiding conflict rather than facing and working through it, as is characteristic of personality growth. Individuals who are high on personality adjustment tend to value emotional security and reducing friction more than persons seeking personality growth. In support of this conjecture, a negative association between social maturity (adjustment) and marital conflict and tension in relationships with parents has been demonstrated (Helson & Wink, 1987).

Previous studies have reported a moderately positive association between wisdom and adjustment as well as between adjustment and growth using different operationalizations (e.g., Helson & Wink, 1987; Mickler & Staudinger, 2008). In the present study, we added to this evidence by testing the hypothesis that the relationship between adjustment and wisdom is mediated by growth. We assumed this to be the case because mastery of everyday life (i.e., adjustment) frees up resources for the pursuit of personality growth, which in turn supports wisdom-related performance (cf. Staudinger & Kessler, 2009).

Wisdom and Generativity

Erikson (1950) defined generativity in terms of a concern for the welfare of the next generation or, more broadly, a virtue of care (Kotre, 1996) ranging from nurturance of one's children to communal involvement and commitment to the sustainability of the world (McAdams & Logan, 2004). Surprisingly little is known about the relation between WRP and generativity despite the fact that both constructs entail an increased radius of caring, ranging from one's immediate family and work relationships to humankind in general (Erikson, 1950; Orwoll & Perlmutter, 1990; Sternberg, 1998), and transcendence of self-interest (Kohut, 1966; Levenson et al., 2005).

Evidence indicates that WRP is positively related to self-transcending values such as societal engagement (e.g., doing something for society and world peace) and ecological protection or universalism and benevolence, which are closely linked with generativity (Kunzmann & Baltes, 2003; Mickler & Staudinger, 2008). A positive association emerged between generativity and several self-report and observer-based measures of wisdom (Webster, 2003, 2010; Wink & Dillon, 2003; Wink & Helson, 1997). Because generativity gains in salience in the second half of adulthood, our sample of older adults was particularly suitable to exploring the relationship between generativity and wisdom.

In addition to being a correlate of wisdom, generativity was hypothesized to be positively related to personality adjustment and growth. In the case of adjustment, the relationship springs from the fact that individuals high in adjustment and generativity are norm bearers who transmit cultural practices to the next generation (Kotre, 1996; Peterson & Klohnen, 1995; Wink & Dillon, 2003). Generativity can also, however, find expression in challenging the status quo with the intention of making society or the world a better place for future generations (McAdams & Logan, 2004). This second form of generativity should be associated with personal growth. There is some evidence to support this assumption. Cox, Wilt, Olson, and McAdams (2010), for example, found generativity to be positively related to Openness to Experience but not Agreeableness, a key marker of adjustment. Women who were conservers (i.e., high scorers on Ryff's [1989] Environmental Mastery scale) and those who were seekers (i.e., high scorers on Ryff's [1989] Personal Growth scale) scored high in generativity (Helson & Srivastava, 2001). In other words, generativity seems to overlap with both personality adjustment and growth. Whether this is an independent relationship or whether it reflects overlapping variance with regard to the prediction of WRP remains to be tested.

METHOD

Participants

Data were drawn from two studies begun by the Institute of Human Development (IHD) at the University of California, Berkeley. The Berkeley Guidance Study (GS) was initiated in 1928–1929 using a representative sample of newborn children from Berkeley, California, with the original intent of analyzing development from birth through early adulthood. The Oakland Growth Study (OGS) was designed to investigate adolescent development and consisted of a representative sample of preadolescents (ages 10–12) from Oakland, California, born in 1920–1921, approximately 8 years before the GS cohort. The studies were combined in the 1960s to form the current IHD sample (Eichorn, 1981). Sample bias due to attrition was very small, with a slight tendency for lower participation from participants with low education levels (Clausen, 1993).

Data for the present study come from the latest assessment conducted between 1997 and 2000, when the OGS participants were on average 77 and the GS participants were 69 years of age (Wink & Dillon, 2003). Of the available participants (neither dead, noncontactable, nor severely cognitively impaired), 90% ($N = 184$) were interviewed in late adulthood and 10% refused to participate (Wink & Dillon, 2002). The number of participants interviewed in late adulthood constitutes 58% of those who took part in the study in adolescence.

From the 184 individuals interviewed in late adulthood, 163 participants completed the wisdom procedure (see the Measures and Procedure section for the reason why not all of the participants completed the wisdom task). The 21 participants without WRP data did not differ significantly from those with WRP data on any of the major demographic characteristics, including gender ($\chi^2 = .67$, *ns*), age cohort ($\chi^{2=}.05$, *ns*), and socioeconomic status, $t(18,165) = .64$, *ns*.

In the current sample, 53% were women and 47% were men; 36% were born in the early 1920s, and 64% were born in the late 1920s. In late middle adulthood, 59% of the participants (or their spouses) were upper-middle-class professionals or executives, 19% were lower middle class, and 22% were working class. All but six of the participants are White. The majority of the sample (73%) grew up in Protestant families. At the time of measurement, 83% were still living in California and 71% were living with their spouse or partner.

Measures and Procedure

Participants were tested in their homes by one of two interviewers in a single interview session lasting 3–5 hours. WRP was measured following a break after the first part of the session. Prior to the personal in-depth interview, participants completed a mailed questionnaire containing an array of self-report scales used in the present study.

Assessment of General WRP. The Berlin Wisdom Paradigm (BWP) assesses WRP using a standardized procedure that involves first training individuals to think aloud and then asking them to think aloud about wisdom tasks describing difficult and uncertain life problems confronted by a hypothetical individual (see Staudinger et al., 1994). The responses are then scored on the five criteria of wisdom by a panel of trained raters. It is important that the task vignettes describe fictitious characters and that during the warm-up period, the respondents are taught to use all the knowledge that they have in thinking about the difficult life issue and not to rely just on their personal lives. Following the distinction between general and personal wisdom (Mickler & Staudinger, 2008), this means that the Berlin Wisdom Paradigm focuses on a general type of wisdom that is associated with providing judgment and advice to others about their difficult life problems.

In the present study, we used a dilemma well validated in previous research (Baltes, Staudinger, Maercker, & Smith, 1995): "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 participants had 5 minutes to think about the problem before responding, and their uninterrupted answers were tape-recorded. One of the two interviewers conducting the wisdom interview had received training in the administration of the BWP at the Max Planck Institute in Berlin, and he subsequently trained the other interviewer.

Selection and Training of Raters and Scoring of Protocols. The transcripts of the verbal responses to the difficult life dilemma were evaluated using the five BWP criteria (i.e., factual and procedural knowledge in the fundamental pragmatics of life, life span contextualization, value relativism, and the awareness and management of uncertainty) by five pairs of trained raters, one pair for each of the five criteria. The 10 raters were selected from among respondents to an advertisement in a local newspaper based on the assessment of their résumé and a telephone interview (in particular, we sought individuals with experience evaluating text, and low dogmatic tendency). The study was advertised as research on difficult life problems. The 10 raters (five men and five women) consisted of teachers (four), a newspaper editor, a retired librarian, a medical doctor, a freelance graphic designer, a college senior, and a college-educated housewife. They ranged in age from 21 to 67 years, and on average were 43 years old. Following the Wisdom Manual, the rater training involved a group session on the general rating process, including rating bias, attended by all of the raters (approximately 3 hours in length) and criterion-specific training sessions for each pair of raters (approximately 4 hours in duration) that included instruction in rating verbal protocols against an ideal (in contrast to rank ordering). For calibration purposes, raters evaluated 10 wisdom protocols adapted for this study (for detailed information, see the training manual, Staudinger et al., 1994). The authors of the study conducted the training sessions.

Raters were randomly assigned to one of the five wisdom criteria, and they were blind to the hypotheses of the study.

Table 1 Illustrative Extractions From Wisdom-Related Responses Rated as High and Low

Value relativism—high
. . . I should note that I don't rule out suicide as a mortal sin or anything like that. I think it's nothing that should be indulged in, but I don't exclude that it could probably be the best solution to certain rare selected problems, such as great pain or terminal illness. If it were the first, pain or terminal illness, then I think you have to consider what are the options that exist to alleviate the pain, even if you cannot change the course of the illness. . . . If it were a question of a physical or terminal illness and great pain, even there you should make sure the person understands the consequences of the action: that death is final and that this is really what he or she wants to do. . . .
Value relativism—low
. . . First of all I have to say that one should not commit suicide, life has been given to us and we are not allowed to take it away. Therefore it is clear suicide has to be prevented. . . . Isn't it amazing that a person would do that. This is so far away from what one should do. The person must be sick. . . . Oh, I don't know. It's a horrible thing to think that a friend like that would do such a thing, actually it is quite irresponsible in a way, considering that they are your good friends and there must be something in the background that's troubling them, that would do this. It is clear that suicide is really something like a sickness and the suicidal person just is not to be considered sane at that moment. . . .
Procedural knowledge—high
. . . The first thing that comes to mind is what kind of relationship there is between these two people. This could be a lover that feels rejected in some way. Or it could be a person who's in great pain and doesn't feel they can go on because of that. . . . Or it could be a general depression—the responses might be somewhat different depending. . . . So that one of the first things that I thought of was talking to that person gently, sort of working toward some of the more positive things . . . It seems like it would be a good thing to keep that person on the phone. . . . It might be good to hear later on what it is that's brought on this—that's triggered this hopelessness at this point. . . . But I think basically it would be good to bring the conversation around to some positive memories . . . but it could be a situation where the person would respond if you said, "Well, that would be a tragedy to me," or, "I would really miss you. . . ." Bringing out strong ties that would—in some way or other to bring some purpose or meaning in that person's life. . . .
Procedural knowledge—low
. . . Well, I'm—I can't really say I'm surprised that you called about this because you had a real hard time with this and all, but why don't you consider a few things? . . . I don't think you should really do it until you think about it, because you're going to not only lose yourself, you're a good person, and you should have a long healthy life, I think you should think about your family and you should think about yourself because it could always be, you might think it cannot be worse, but it can always get better but it won't get any better if you're planning on committing suicide. So I think that you should just talk to me awhile about it, . . . tell me what the other problems are, and let's just discuss it. We can handle it some way. There's no reason to kill yourself for that reason. . . . And I don't think you should do it.

Each rater independently read the entire set of 163 protocols (in randomized order), using a scale ranging from 1 to 7 representing the degree to which the protocol matched the ideal with regard to the respective WRP criterion (see Table 1 for examples of responses). A score of 7 indicated a close match to the ideal. Each rater was paid $1,500.

Protocol Length. Protocol length was measured by counting the words of each transcript using the word count function of Microsoft Office Word.

Measures of Personality Growth. Openness to Experience was assessed with a subscale of the Big Five Inventory (BFI; John, Donahue, & Kentle, 1991) that asks respondents to rate the self-applicability of statements such as "Has a wide range of interests," "Likes to reflect, play with ideas," and "Is insightful, sees different possibilities" using a 5-point Likert scale. The 10-item Openness scale ($N = 112$) had adequate internal consistency (Cronbach's $\alpha = .78$). Insight and understanding the feelings of others were assessed using the Psychological Mindedness subscale of the California Psychological Inventory ($N = 119$; CPI; Gough & Bradley, 1996/2002). Cronbach's alpha reliability of .57 for the 22-item true/false subscale was very close to that for the CPI norm sample of .62 ($N = 6{,}000$; Gough & Bradley, 1996/2002). The somewhat lower level of reliability of the Psychological Mindedness subscale is due to the dichotomous true/false response format of the CPI.

A confirmatory factor analysis (CFA) specifying two separate factors indicated that among the six scales of Ryff's (1989) Psychological Well-Being Questionnaire, Personal Growth, Purpose in Life, and Autonomy loaded onto the growth factor and Self-Acceptance, Environmental Mastery, and Positive Relations With Others (Ns = 144) loaded onto the adjustment factor. The fit statistics for this model suggested good fit, $\chi^2(8, N = 144) = 9.67$, $p = .29$; RMSEA = .038; SRMR = .027. The two-factor model fit the data significantly better than a one-factor model, $\Delta\chi^2(1, N = 144) = 156.51$, $p < .01$. We computed our measure of (psychological) well-being from growth by summing the unweighted scores of three of the six Ryff nine-item subscales. High scorers on the Personal Growth subscale see the self as growing, open to experience, and evolving over time; high scorers on the Purpose in Life subscale hold beliefs that give life a sense of direction and meaning; and high scorers on the Autonomy subscale are independent, self-determining, and able to resist social pressures to think and act (Ryff, 1989). The alpha reliability of the unweighted composite of the three subscales was .72.

Measures of Personality Adjustment. The personality characteristics of Agreeableness (eight items; $\alpha = .69$), Conscientiousness (nine items; $\alpha = .76$), and Neuroticism (reverse

scored, i.e., absence of Neuroticism; eight items; $\alpha = .81$) as assessed with scales of the BFI (*N*s = 112; John et al., 1991) were used to measure personality adjustment.

Based on the results of the CFA described above, (psychological) well-being from adjustment was assessed with a sum of the unweighted score on three subscales of the Psychological Well-Being Questionnaire ($N = 144$; Ryff, 1989). The Environmental Mastery subscale assesses a sense of competence in managing the environment and effective use of surrounding opportunities; the Positive Relations With Others subscale reflects a sense of well-being from warm, satisfying, and trusting relationships with others; and the Self-Acceptance subscale measures a positive attitude toward the self (Ryff, 1989). Cronbach's alpha reliability of the unweighted composite of the three subscales was .81. Life satisfaction was measured with the Satisfaction With Life Scale ($N = 144$; Diener et al., 1985; $\alpha = .90$).

We conducted a CFA to examine the viability of our two-factor meta-level conceptualization of personality as consisting of the two unique, but related, factors of personality adjustment and growth. We first evaluated a model with all of the measures described above loading onto one factor. The one-factor model did not fit the data very well, $\chi^2(19, N = 163) = 79.79$, $p < .01$; CFI = .79; RMSEA = .146; SRMR = .089. Next, we specified a two-factor model with Agreeableness, Conscientiousness, life satisfaction, well-being from adjustment (Ryff), and Neuroticism (reverse coded) loading onto the personality adjustment factor and Openness, psychological mindedness, and well-being from growth (Ryff) loading onto the personality growth factor. This two-factor model fit the data adequately, $\chi^2(18, N = 163) = 39.50$, $p < .01$; CFI = .92; RMSEA = .099; SRMR = .073, with a nested χ^2 difference test indicating significantly better fit than the one-factor well-being model, $\Delta\chi^2(1, N = 163) = 40.29$, $p < .001$. Thus, we adopted the two-factor meta-level specification of personality.

Measures of Generativity. The construct of generativity was assessed with two measures. The self-report Loyola Generativity Scale ($N = 144$; LGS; McAdams & de St. Aubin, 1992) is a 20-item self-report measure that assesses on a 4-point scale the goal of providing for the next generation (e.g., "Others would say that I have made unique contributions to society," "I do not volunteer to work for a charity" [reverse scored]). The Cronbach's alpha reliability of the LGS was .83. In addition, generativity was measured with Peterson and Klohnen's (1995) 13-item Generativity scale ($N = 163$; Cronbach's $\alpha = .89$) derived using the California Adult Q-Sort (CAQ; Block, 1978) from observer ratings of in-depth interview material and, therefore, assessing the realization, rather than conscious concern, of generative impulses. The scale measures the realization of generative potential as reflected in the theme of givingness (e.g., "Behaves in a giving way towards others"), pro-social competence and productivity (e.g., "Behaves in an ethically consistent manner"), and social perspective ("Is socially perceptive of a wide range of social cues").

Demographic Variables. Gender and age cohort (OGS vs. GS study) were assessed with dummy 0/1 variables (1 = male, 0 = female; 1 = age 77, 0 = age 69).

N for Different Measures. Of the 163 participants for whom we had collected WRP, 144 completed the mailed questionnaire including Ryff's (1989) Psychological Well-Being Questionnaire, the Satisfaction With Life Scale, and the Loyola Generativity Scale. The Big Five Inventory and the Psychological Mindedness scale of the CPI were available for 112 and 119 participants, respectively. The CAQ Generativity scale was available for all 163 participants. The variation in *N* for the different outcome measures was due to the fact that participants who did not return the self-report questionnaires initially were subsequently mailed an abbreviated packet of measures. Once again, we found no demographic differences between those participants for whom we had the WRP scores but who did not complete one of the self-report measures. In particular, the participants for whom we had both WRP and BFI data ($N = 112$) and those for whom we had WRP but not BFI data ($N = 51$) did not differ on gender, age cohort, socioeconomic status, and ratings of physical health (see the Results section for a description of the procedure in dealing with missing data).

RESULTS

In testing the hypotheses of the study, we first analyzed the reliability of the WRP scores and the interrelations among the five wisdom scales. In a second step, we tested the interrelations between WRP, personality adjustment, and personality growth using latent path analysis. In a third step, we included generativity in the model.

Inter-Rater Reliability and Correlations Among the Five WRP Criteria

The Cronbach's alpha coefficient for the overall WRP score (calculated across its five dimensions) was .84 (see Table 2). The alpha coefficients for the five criteria (calculated for each pair of raters) ranged from .76 for life span contextualism and value relativism to .89 for uncertainty, with an average of .81. The average (item total) correlation between the WRP and its five criteria was .78, with the highest correlation of .86 between overall WRP and factual knowledge and the lowest correlation of .69 between WRP and uncertainty. These results match well against those reported by Staudinger and Baltes (1996), who also used the "suicide task," where alphas for the five wisdom criteria ranged from a low of .50 to a high of .91, with an average of .71.

Table 2 Correlations, Means, Standard Deviations, and Cronbach's Alpha Coefficients for General Wisdom and Its Five Criteria

Characteristics	Mean	*SD*	Alpha	1	2	3	4	5
Overall WRP	2.16	.85	.84	.86	.79	.77	.69	.79
Five criteria								
1. Factual knowledge	3.21	1.26	.78		.56	.64	.65	.59
2. Procedural knowledge	2.27	1.25	.87			.43	.37	.65
3. Life span contextualism	1.59	.95	.76				.58	.46
4. Value relativism	1.55	.88	.76					.35
5. Uncertainty	2.16	1.96	.89					—

Note. $N = 16$. WRP = wisdom-related performance.

The average intercorrelation between the five WRP criteria was .53, with a high correlation of .65 between factual knowledge and uncertainty and procedural knowledge and value relativism, and a low correlation of .35 between uncertainty and value relativism. Once again, these results are very similar to those reported by Staudinger and Baltes (1996), who reported an average intercorrelation between the five WRP criteria of .56 (range from a low of .39 to a high of .67).

The WRP mean was 2.18 ($SD = .85$) on the 7-point scale. Although low, the mean for the present study reflects findings from previous German studies that also report overall low WRP scored in unselected samples. The mean WRP score in the Staudinger and Baltes (1996) study, for example, was 2.61 with a standard deviation of .85 (see Staudinger, 1999, for further discussion of mean wisdom performance scores obtained using the Berlin Wisdom Paradigm).

As expected, protocol length was significantly associated with scores on the five wisdom criteria (rs range from .27 to .68). However, the strength of the association depended on whether the wisdom criterion asked for mentioning of facts (e.g., factual knowledge; $r = .68$), where a higher rating entails a longer response listing a variety of facts, or whether the criterion probed for presenting a concrete argument or social reasoning structure not requiring a long response (e.g., value relativism; $r =. 27$). If the relationship between word count and wisdom was the result of a method confound, we would have expected a similar correlation across all five criteria (see Mickler & Staudinger, 2008, for an elaboration of this issue). It follows from these associations that by controlling for protocol length, we take out substantive variance from the wisdom scores. The argument is underscored when inspecting the scatter plot: The relationship between word count and WRP was only significant for individuals with low WRP scores and became insignificant for participants with higher scores (3.0 or above).[1] Nevertheless, we will also report the results of our main analyses when controlling for protocol length.

WRP in the Context of Personality Adjustment and Growth

We used Mplus (Muthén & Muthén, 1998–2010) with full information maximum likelihood (FIML) estimation to examine relationships among four latent variables: WRP, personality growth, personality adjustment, and generativity. To assess model fit, we examined the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). CFI values greater than .90 and RMSEA and SRMR values less than .08 indicate adequate model fit (Browne & Cudeck, 1993; Hu & Bentler, 1999). However, consistent with the recommendations of Hopwood and Donnellan (2010), who discussed problems obtaining good overall fit statistics when evaluating personality inventories, we considered values approaching these rules of thumb as adequate. RMSEA and SRMR have been recommended for use with smaller samples. When interpreting RMSEA, one needs to keep in mind that it has been found to have a conservative bias (Hu & Bentler, 1999). Thus, we inspected RMSEA and SRMR conjointly when evaluating model fit. Using Mplus allowed us to use FIML to derive parameter estimates to include participants who had partially complete data (Muthén & Muthén, 1998–2010).

Measurement Model. Prior to examining structural relations among the latent variables, two confirmatory factor analyses (CFAs) were conducted to determine whether the indicators loaded on the constructs as expected. To set the metric of latent variables, the first factor loading was fixed to one (Brown, 2006). The residuals of indicators of the latent variables that were derived from the same self-report measure were allowed to covary (Brown, 2006).[2]

First, we were interested in examining relationships among personality adjustment, personality growth, and WRP (without including generativity). The goodness-of-fit indicators for an initial CFA examining how the indicators loaded onto these factors indicated adequate model fit, $\chi^2(55, N = 163) = 110.33$, $p < .01$; CFI = .92; RMSEA = .079; SRMR = .071. Coefficients of the CFA are presented in the CFA Model 1 section of Table 3. All factor loadings were statistically significant, with all standardized loadings greater than .40 (with the exception of the loading from the personality adjustment latent variable to Conscientiousness, which was .34). The bivariate associations displayed above the diagonal in Table 4 present the bivariate associations among these three latent variables. As

Table 3 Factor Loadings From the CFA

Latent Variable	Indicator	Standardized Factor Loading	*t*	Latent Variable	Indicator	Standardized Factor Loading	*t*-test
	CFA Model 1				CFA Model 2		
WRP				WRP			
	Factual knowledge	.85	25.03		Factual knowledge	.85	25.06
	Procedural knowledge	.70	14.05		Procedural knowledge	.70	14.07
	Life span contextualism	.72	15.43		Life span contextualism	.71	15.14
	Value relativism	.62	11.16		Value relativism	.62	11.11
	Uncertainty	.71	14.95		Uncertainty	.72	15.05
Personality adjustment				Personality adjustment			
	Agreeableness	.43	5.05		Agreeableness	.43	5.28
	Conscientiousness	.34	3.75		Conscientiousness	.34	3.81
	Life satisfaction	.73	12.80		Life satisfaction	.73	13.67
	Psych WB-Adjustment	.93	15.92		Psych WB-Adjustment	.93	19.20
	Neuroticism (reverse coded)	.44	4.88		Neuroticism (reverse coded)	.40	4.57
Personality growth				Personality growth			
	Openness	.52	6.51		Openness	.57	7.43
	Psychological mindedness	.60	7.38		Psychological mindedness	.58	7.89
	Psych WB-Growth	.85	13.55		Psych WB-Growth	.85	16.41
				Generativity			
					CAQ Generativity	.42	4.49
					Loyola Generativity	.86	6.30

Note. CFA = confirmatory factor analyses; WRP = wisdom-related performance; Psych WB = psychological well-being; CAQ = California Q-Sort; Loyola = Loyola Generativity Scale.
All *ps* < .001.

Table 4 Bivariate Associations Among Latent Variables

Latent Variable	1	2	3
1 WRP	—	.24**	.55***
2 Personality adjustment	.25**	—	.56***
3 Personality growth	.57***	.54***	—
4 Generativity	.34**	.55***	.67***

Note. Correlations (*r*) for the model containing only wisdom-related performance, personality adjustment, and personality growth are presented above the diagonal. Correlations (*r*) for the model with all four variables included are presented below the diagonal.
**$p < .01$. ***$p < .001$.

hypothesized, both personality growth ($r = .55$) and personality adjustment ($r = .24$) were significantly associated with WRP and significantly associated with each other ($r = .56$).

When adding generativity to the model, the goodness-of-fit indicators showed adequate model fit, $\chi^2(77, N = 163) = 168.55$, $p < .01$; CFI = .88; RMSEA = .085; SRMR = .077. All factor loadings were statistically significant, with all standardized loadings greater than .40 (again, with the exception of the loading from the personality adjustment latent variable to Conscientiousness, which was .34; see Table 3).[3] Chi-square difference tests indicated that the four-factor model with generativity as a separate factor fit the data significantly better than either a three-factor model with generativity combined with the personality adjustment factor, $\Delta\chi^2(1, N = 163) = 21.64$, $p < .01$, or generativity combined with personality growth, $\Delta\chi^2(1, N = 163) = 15.58$, $p < .01$. The bivariate associations among these four latent variables are displayed below the diagonal in Table 4. As predicted, generativity was significantly associated with each of the other three latent variables.[4]

Structural Model. The first structural analysis regressed WRP simultaneously on personality adjustment and growth. Personality growth ($b = 2.01$, $\beta = .61$, $p < .01$) remained a significant predictor of WRP, whereas personality adjustment ($b = -.17$, $\beta = -.09$, *ns*) did not.[5] The two predictors accounted for 32% of the variance in WRP. To further explore the nature of these results, we computed the indirect effect from personality adjustment to WRP through personality growth. The result ($b = .65$, $ß = .33$, $p < .01$) suggested, as predicted, that the significant and positive bivariate association between personality adjustment and WRP is accounted for by the relationship between personality adjustment and growth (see Figure 1).

The second structural analysis included personality growth, adjustment, and generativity as predictors of WRP. Again, personality growth ($b = 1.93$, $\beta = .64$, $p < .01$) remained significantly associated with WRP, whereas personality adjustment ($b = -.13$, $\beta = -.07$, *ns*) and generativity ($b = -.14$, $\beta = -.05$, *ns*) did not (with both signs in the opposite direction of the bivariate association with WRP).[6] All three predictors

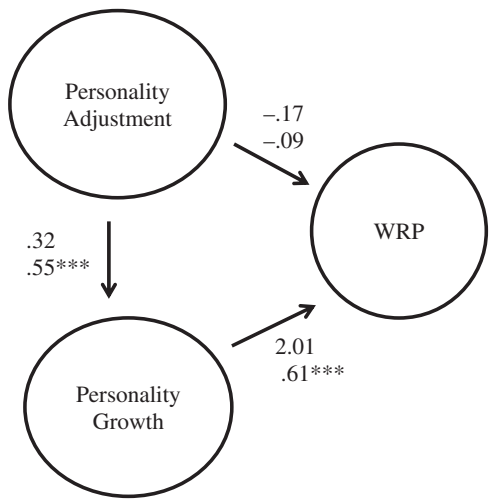

Figure 1 Personality growth and adjustment as correlates of wisdom-related performance (WRP). Path coefficients are presented as unstandardized (*b*) regression coefficients; standardized (β) coefficients are below. The indirect effect personality Adjustment > Personality Growth > WRP was significant ($b = .65$, $ß = .33$, $p < .01$). *$p < .05$. **$p < .01$. ***$p < .001$.

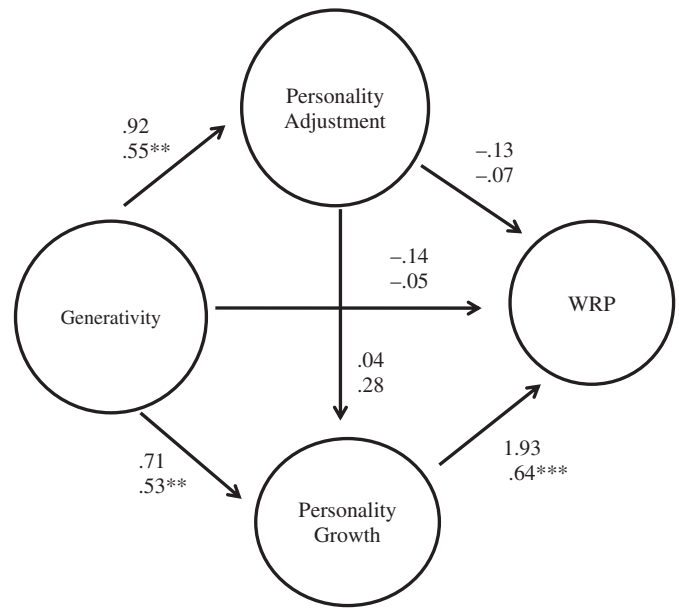

Figure 2 The relationship between personality growth, personality adjustment, and generativity and wisdom-related performance (WRP). Path coefficients are presented as unstandardized (*b*) regression coefficients on the top and standardized (β) coefficients below. The indirect effect Generativity > Personality Growth > WRP was significant ($b = .14$, $ß = .43$, $p < .01$). The indirect effect Generativity > Personality Adjustment > WRP was not significant ($b = –.12$, $ß = –.04$, *ns*). *$p < .05$. **$p < .01$. ***$p < .001$.

accounted for 33% of the variance in WRP; that amounts to an increase of only 1% when adding generativity.

To further explore the nature of these results, indirect effects from generativity through personality adjustment to WRP and from generativity to WRP through personality growth were computed (see Figure 2). The indirect path from generativity to WRP through personality growth was significant ($b = .14$, $\beta = .43$, $p < .01$), but the same effect for personality adjustment was not. In addition, the association between personality adjustment and growth was no longer significant once generativity was included. This suggests that generativity may account for the positive relationship between personality adjustment and growth.[7]

DISCUSSION

WRP Within the Psychometric Network of Personality Growth and Adjustment

As hypothesized, we found significant, moderately strong associations between WRP and markers of personality growth, thus confirming previous findings (e.g., Staudinger et al., 1997). High WRP scorers were characterized by Openness to Experience and showed insight and understanding of the feelings of others (psychological mindedness). Participants with higher levels of WRP derived their well-being from a continued sense of personal evolution (personal growth), a firm sense of direction and meaning (purpose in life), and independence or autonomy (autonomy) that allowed resistance to societal pressure to think and act in any particular way. These characteristics are relevant to key features of general wisdom, including the acquisition of a broad knowledge of the world and the appreciation of the importance of value relativism, uncertainty, and contexts in the evaluative process. This demonstrated link is even strengthened in its importance by the fact that wisdom was assessed using a performance and not a self-report measure, that is, narratives generated in response to a prompt that asked participants to think out loud about a difficult life problem. In contrast, all of the outcome variables in the present study, with the exception of one of the two measures of generativity, were based on self-report questionnaires. Usually such a difference in assessment methods reduces the observed association.

In addition to personality growth, WRP was also significantly related to characteristics associated with markers of personality adjustment. This association, however, as hypothesized, was not as strong as that for personality growth, and it became insignificant once the overlap between adjustment and growth was statistically controlled. Further, our statistical model revealed a positive path leading from personality adjustment to WRP via personality growth but the absence of a direct unique link between personality adjustment and WRP. There are at least two complementary explanations of this result. Given the cross-sectional nature of our data set, we are not in a position to disentangle the process dynamic underlying the wisdom pathway. The finding is consistent with the interpretation that the mastery of everyday life may provide the necessary degree of freedom that then allows for a focus on growth and self-transcendence, which, in turn, support

progress on the wisdom pathway (cf. Staudinger & Kessler, 2009). In addition, it may also be the case that adjustment is a consequence of wisdom in the sense that the self-transcendence linked with the attainment of wisdom may give rise to an increased sense of equanimity (i.e., maintained levels of subjective well-being).

It is important to note that wisdom is not antithetical to the personality characteristics of Agreeableness, Conscientiousness, and Emotional Stability (absence of Neuroticism), and life satisfaction. Neither is it opposed to deriving a sense of well-being from competence in managing the environment effectively, a positive attitude toward the self, and positive relationships with others. These characteristics are, however, not sufficient for gaining insight in the difficult and fundamental questions of life.

We suggest that the examination of the joint and unique effects of personality growth and adjustment on wisdom sheds light on some inconsistencies in the literature with regard to the link between life satisfaction and wisdom. Our result showing that there is no unique association between (indicators of) personality adjustment and WRP left after personality growth is controlled lends itself to the interpretation that associations between wisdom measures and subjective well-being are to be considered as a reflection of the degree to which indicators of personality adjustment are, or are not, made a part of the wisdom definition or its operationalization. In support of this inference, Grossmann and colleagues (2013) found that a positive zero-order correlation between their pragmatic reasoning about social conflict measure of wisdom and life satisfaction became insignificant once Agreeableness, a key marker of personality adjustment, was controlled. Perhaps the more a wisdom measure is saturated with characteristics indicative of personality growth, the less likely it is to show a unique relationship to either satisfaction with life or intimate relationships.

WRP and Generativity

Like personality growth and adjustment, generativity also exhibited a significant and positive bivariate association with wisdom. In other words, high WRP scorers tended to report an interest in caring for the next generation and were rated based on their in-depth personal interview as giving, productive, and exhibiting a wide social perspective (cf. CAQ Generativity). The latter are key characteristics not only of generative intent but also of its realization in everyday life.

However, once all three measures—generativity, adjustment, and growth—were entered in the model, only the path between growth and wisdom remained significant. Also, with generativity controlled, the relation between personality adjustment and growth became insignificant. This suggests that generativity, both in terms of motivational and behavioral aspects, plays an important role in the overlap between personality adjustment and personality growth. In other words, it seems to be the capacity and willingness to extend the sense of self to include a concern for the welfare of others, and its correlates, that provide an important basis of the positive association between personality adjustment and growth. In support of this conjecture, Dillon and Wink (2007) found that generativity was one of few characteristics shared by conventionally religious individuals whose personality was marked by adjustment, as well as by spiritual seekers whose personality was characterized by openness and personal growth.

The strength of the relationship between wisdom and generativity may have been attenuated by the content of our generativity measures. Neither the LGS nor the CAQ Generativity scale specifically target involvement with broad causes incorporating humanity at large (e.g., doing something for peace in the world or engagement in ecological protection) that appear to be particularly characteristic of wisdom (Kunzmann & Baltes, 2003; Mickler & Staudinger, 2008; Webster, 2010). In other words, it may be the case that the sense of self-transcendence associated with wisdom predisposes wise individuals to move beyond the confines of their immediate environment or community and channel their energies into broader causes. This type of generative engagement may be characteristic of both wisdom and personal growth, in contrast to the more local focus on family, friends, and the immediate community associated with adjustment.

Enhanced Understanding of the Relationship Between Personality Adjustment and Growth

Although not a primary aim of this study, our findings provided new support for a distinct pattern of characteristics associated with personality adjustment and growth (cf. Staudinger & Kessler, 2009; Staudinger & Kunzmann, 2005). In particular, we confirmed that individuals high in adjustment tend to be agreeable, conscientious, emotionally stable, and satisfied with life, and they tend to derive their sense of well-being from mastery of the environment and self-acceptance. Conversely, persons high on the personality growth component are likely to be open to experience and insightful, and their sense of well-being tends to come from a sense of growth and purpose in life. In addition, and in line with earlier work, we found that well-being from positive relations with others is a marker of personality adjustment, whereas autonomy is more characteristic of personality growth (see Helson & Wink, 1987).

LIMITATIONS

The generalizability of the study's findings are limited by the fact that the participants all came from the San Francisco Bay Area, were almost all white, and, in late adulthood, attained middle to upper-middle socioeconomic status. Despite some growing convergence in findings on the implications of wisdom for psychosocial functioning, it is important to keep in mind that the current field of wisdom research is characterized by a plurality of constructs and assessment methods. Of course, we cannot imply any sort of temporal precedence

among the influence of the four variables in our models, as the design of our study was cross-sectional. Future longitudinal research is needed to examine the temporal patterns underlying these relationships.

Does the fact that the data for our study were collected approximately 15 years ago (in 2000) affect the generalizability of our findings to more recent cohorts of older Americans? Many pivotal sociohistorical events have occurred since then, including September 11, the ensuing wars in Afghanistan and Iraq, the acceleration of globalization processes, and the rapid expansion of the Internet and social media. However, because our wisdom measure involves evaluating responses according to five criteria that are abstract rather than concrete, the wisdom-related quality of the responses would tend not to be affected by specific sociohistorical developments. Nonetheless, in the ontogenetic model of wisdom (e.g., Staudinger & Baltes, 1994), we have considered the fact that different cohorts may have had more or less challenging historical circumstances to deal with, which may, in turn, have differentiated how members of these cohorts think about life and the levels of life insight gained from such challenges. Therefore, while it may be the case that if we assessed a comparable sample of adults in their 70s today, they might show increased levels of wisdom-related performance, it is unlikely that this potential change in level would affect the covariation patterns as well. The fact that the suicide wisdom task has generated comparable results regarding the relationship between personality and wisdom in research spanning the 1980s to 1999 and carried out both in Germany and now in the United States seems to support that argument.

CONCLUSIONS AND OUTLOOK

Most contemporary theories of wisdom associate it with the ability to balance competing interests, including an investment in the self, others, and the world at large (see, e.g., Sternberg, 1998). Our findings support this view insofar as high scorers on WRP combined an emphasis on smooth relations with others, dependability, autonomy, and openness to new experiences with an attitude of caring for the welfare of others. The balancing or integration of different personal strengths and interests inevitably occurs, however, within the context of a dominant personality style, which in the case of wisdom is provided by the pursuit of maturity through personal growth. Although our findings helped to resolve some of the apparent inconsistencies in the wisdom literature, it also became clear that these intricacies require further and longitudinal research in order to be more fully understood.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The authors disclosed receipt of the following financial support for the research and authorship of this article: Preparation of this article was supported by a grant from the Brachman Hoffman Fund at Wellesley College to Paul Wink and a grant from the Alexander von Humboldt Foundation to Ursula M. Staudinger when she was at Jacobs University, Bremen, Germany.

Notes

1. We thank Judith Glück for this recommendation.
2. The initial CFA did not converge when allowing the residuals of the Big Five Inventory scales to covary. Therefore, for the preliminary CFA, the correlations of these residuals were fixed at zero; however, the models would only converge when allowing the residuals of the two indicators derived from the Ryff scales to covary. For all subsequent structural models, all residuals from the indicators of the same scale were allowed to covary.
3. The matrix showing intercorrelations among all of the study variables is available from the authors upon request.
4. We recomputed all of the analyses controlling for word count to test its effect on the relationship between wisdom and its predictors. A series of CFAs regressing all of the indicators for the wisdom latent variable on word count (essentially removing the variance due to word count from the wisdom indicators prior to forming the wisdom latent variable) and correlating word count with the adjustment and growth latent variables produced an adequately fitting model, $\chi^2(74, \quad N = 163) = 139.06, \quad p < .01; \quad \text{CFI} = .92; \quad \text{RMSEA} = .073;$ SRMR = .071. The bivariate associations between the wisdom latent variable (with variance due to word count removed) and the adjustment and growth latent variables were substantially attenuated. While the wisdom-adjustment association was no longer significant ($r = .11$, *ns*), the wisdom-growth association remained statistically significant and moderate in strength ($r = .34$, $p < .001$).
5. We evaluated the structural model controlling for both gender and cohort (OGS vs. GS). The pattern of results remained unchanged. Neither gender nor cohort significantly predicted WRP, and neither was significantly associated with personality adjustment or growth.
6. Again, we evaluated the structural model controlling for both gender and cohort. The pattern of results remained unchanged. Neither gender nor cohort significantly predicted wisdom, and neither was significantly associated with adjustment, growth, or generativity.
7. Not unexpectedly, given that, after controlling for word count, only personal growth correlated positively with wisdom, neither of the two mediation models was significant.

References

Ardelt, M., & Jacobs, S. (2009). Wisdom, integrity, and life satisfaction in very old age. In M. C. Smith & N. DeFrates-Densch (Eds.), *Handbook of research on adult learning and development* (pp. 241–268). New York: Routledge.

Baltes, P. B., Smith, J., & Staudinger, U. M. (1992).Wisdom and successful aging. In T. B. Sonderegger (Ed.), *Psychology and*

aging (Nebraska Symposium on Motivation 1991, Vol. 39, pp. 123–167). Lincoln: University of Nebraska Press.

Baltes, P. B., & Staudinger, U. M. (2000). Wisdom: A metaheuristic to orchestrate mind and virtue towards excellence. *American Psychologist*, **55**, 122–136.

Baltes, P. B., Staudinger, U. M., Maercker, A., & Smith, J. (1995). People nominated as wise: A comparative study of wisdom-related knowledge. *Psychology and Aging*, **10**, 155–166.

Block, J. (1978). *The Q-sort method in personality assessment and psychiatric research*. Palo Alto, CA: Consulting Psychologists Press.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research.* New York: Guilford Press.

Browne, M. W., & Cudeck, R. (1993). *Alternative ways of assessing model fit*. Thousand Oaks, CA: Sage Focus Editions.

Clausen, J. (1993). *American lives: Looking back at the children of the Great Depression.* New York: Free Press.

Cox, K. S., Wilt, J., Olson, B., & McAdams, D. P. (2010). Generativity, the Big Five, and psychosocial adaptation in midlife adults, *Journal of Personality*, **78**, 1185–1208.

De Young, C. G. (2006). Higher-order factors of the Big Five in a multi-informant sample. *Journal of Personality and Social Psychology*, **91**, 1138–1151.

Diener, E., Emmons, R., Larsen, R., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, **49**, 71–75.

Digman, J. M. (1997). Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, **73**, 1246–1256.

Dillon, M., & Wink, P. (2007). *In the course of a lifetime: Tracing religious belief, practice, and change*. Berkeley: University of California Press.

Eichorn, D. H. (1981). Samples and procedures. In D. H. Eichorn, J. A. Clausen, N. Haan, M. P. Honzik, & P. H. Mussen (Eds.), *Present and past in middle life* (pp. 33–51). New York: Academic Press.

Erikson, E. H. E. (1950). *Childhood and society.* New York: Norton.

Glück, J., & Bluck, S. (2013). The MORE life experience model: A theory of the development of personal wisdom. In M. Ferrari & N. M. Weststrate (Eds.), *The scientific study of personal wisdom: From contemplative traditions to neuroscience* (pp. 75–98). New York: Springer.

Gough, H. G., & Bradley, P. (1996/2002). *California Psychological Inventory manual* (3rd ed.). Palo Alto: California Psychologists Press.

Grossmann, I., Na, J., Varnum, M. E. W., Kitayama, S., & Nisbett, R. (2013). A route to well-being: Intelligence versus wise reasoning. *Journal of Experimental Psychology: General*, **142**, 944–953.

Helson, R., & Srivastava, S. (2001). Three paths of adult development: Conservers, seekers, and achievers. *Journal of Personality and Social Psychology*, **80**, 995–1010.

Helson, R., & Wink, P. (1987). Two conceptions of maturity examined in the findings of a longitudinal study. *Journal of Personality and Social Psychology*, **53**, 531–541.

Hopwood, C. J., & Donnellan, M. B. (2010). How should the internal structure of personality inventories be evaluated? *Personality and Social Psychology Review*, **14**, 332–346.

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, **6**, 1–15.

John, O. P., Donahue, E. M., & Kentle, R. (1991). *The "Big Five" Inventory—Versions 4a and 5b*. Technical report, Institute of Personality and Social Psychology, University of California, Berkeley.

Kohut, H. (1966). Forms and transformations of narcissism. *Journal of the American Psychoanalytic Association*, **14**, 243–272.

Kotre, J. (1996). *Outliving the self.* New York: Norton.

Kunzmann, U., & Baltes, P. B. (2003). Wisdom-related knowledge: Affective, motivational, and interpersonal correlates. *Personality and Social Psychology Bulletin*, **29**, 1104–1119.

Kunzmann, U., & Baltes, P. B. (2005). The psychology of wisdom: Theoretical and empirical challenges. In R. J. Sternberg & J. Jordan (Eds.), *A handbook of wisdom* (pp. 110–135).New York: Cambridge University Press.

Levenson, M. R., Jennings, P. A., Aldwin, C. M., & Shiraishi, R. W. (2005). Self-transcendence: Conceptualization and measurement. *International Journal of Aging & Human Development*, **60**(2), 127–143.

McAdams, D. P., & de St. Aubin, E. (1992). A theory of generativity and its assessment through self-report, behavioral acts, and narrative themes in autobiography. *Journal of Personality and Social Psychology*, **62**, 1003–1015.

McAdams, D. P., & Logan, R. L. (2004). What is generativity? In E. de St. Aubin, D. P. McAdams, & T.-C. Kim (Eds.), *The generative society* (pp. 15–31). Washington, DC: American Psychological Association.

McCrae, R. R., & Costa, P. T., Jr. (1990). *Personality in adulthood.* New York: Guilford Press.

Mickler, C., & Staudinger, U. M. (2008). Personal wisdom: Validation and age-related differences of a performance measure. *Psychology and Aging*, **23**, 787–799.

Muthén, L. K., & Muthén, B. O. (1998–2010). *Mplus user's guide* (6th ed.). Los Angeles: Muthén and Muthén.

Orwoll, L., & Perlmutter, M. (1990). The study of wise persons: Integrating a personality perspective. In R. J. Sternberg (Ed.), *Wisdom: Its nature, origins, and development* (pp. 160–177). New York: Cambridge University Press.

Pasupathi, M., & Staudinger, U. M. (2001). Do advanced moral reasoners also show wisdom? Linking moral reasoning and wisdom-related knowledge and judgment. *International Journal of Behavioral Development*, **25**, 401–415.

Peterson, B. E., & Klohnen, E. C. (1995). Realization of generativity in two samples of women at midlife. *Psychology and Aging*, **10**, 20–29.

Ryff, C. D. (1989). Happiness is everything or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, **57**, 1069–1081.

Schmutte, P. S., & Ryff, C. D. (1997). Personality and well-being: Reexamining methods and meanings. *Journal of Personality and Social Psychology*, **73**, 549–559.

Staudinger, U. M. (1999). Older and wiser? Integrating results from a psychological approach to the study of wisdom. *International Journal of Behavioral Development*, **23**, 641–664.

Staudinger, U. M., & Baltes, P. B. (1994). The psychology of wisdom. In R. J. Sternberg (Ed.), *Encyclopedia of intelligence* (pp. 1143–1152). New York: Macmillan.

Staudinger, U. M., & Baltes, P. B. (1996). Interactive minds: A facilitative setting for wisdom-related performance? *Journal of Personality and Social Psychology*, **71**, 746–762.

Staudinger, U. M., & Glück, J. (2011). Psychological wisdom research: Commonalities and differences in a growing field. *Annual Review of Psychology*, **62**, 215–241.

Staudinger, U. M., & Kessler, E.-M. (2009). Adjustment and growth—Two trajectories of positive personality development across adulthood. In M. C. Smith & N. DeFrates-Densch (Eds.), *Handbook of research on adult learning and development* (pp. 241–268). New York: Routledge.

Staudinger, U. M., & Kunzmann, U. (2005). Positive adult personality development: Adjustment and/or growth. *European Psychologist*, **10**, 320–329.

Staudinger, U. M., Lopez, D. F., & Baltes, P. B. (1997). The psychometric location of wisdom-related performance. *Personality and Social Psychology Bulletin*, **23**, 1200–1214.

Staudinger, U. M., Maciel, A., Smith, J., & Baltes, P. B. (1998). What predicts wisdom-related knowledge? A first look at personality, intelligence, and facilitative experiential contexts. *European Journal of Personality*, **12**, 1–17.

Staudinger, U. M., Smith, J., & Baltes, P. B. (1992). Wisdom-related knowledge in a life review task: Age differences and the role of professional specialization. *Psychology and Aging*, **7**, 271–281.

Staudinger, U. M., Smith, J., & Baltes, P. B. (1994). *Manual for the assessment of wisdom-related knowledge* (Technical Report No. 46). Max Planck Institute for Human Development and Education, Berlin.

Sternberg, R. J. (1998). A balance theory of wisdom. *Review of General Psychology*, **2**, 347–365.

Sternberg, R. J. (2004). What is wisdom and how can we develop it? *Annals of the American Academy of Political and Social Science*, **591**, 164–174.

Webster, J. D. (2003). An exploratory analysis of a self-assessed wisdom scale. *Journal of Adult Development*, **10**, 13–22.

Webster, J. D. (2010). Wisdom and positive psychosocial values in your adulthood. *Journal of Adult Development*, **17**, 70–80.

Wink, P., & Dillon, M. (2002). Spiritual development across the adult life course: Findings from a longitudinal study. *Journal of Adult Development*, **9**, 79–94.

Wink, P., & Dillon, M. (2003). Religiousness, spirituality, and psychosocial functioning in late adulthood: Findings from a longitudinal study. *Psychology and Aging*, **18**, 916–924.

Wink, P., & Helson, R. (1997). Practical and transcendent wisdom: Their nature and some longitudinal findings. *Journal of Adult Development*, **4**, 1–15.