

## Wisdom and Well-Being

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### Abstract:

The literature that has investigated the association between wisdom and well-being has yielded conflicting results ranging from positive associations through zero to even negative associations. After defining and explaining the central constructs, the chapter will provide a review of this literature. While it seems intuitively right that wisdom should be positively associated with well-being, researchers have argued that the association depends on the type of definition and measurement of wisdom and well-being. The chapter will review and discuss the association between wisdom and well-being as a function of the notion and assessment of these constructs and will interpret the seemingly contradictory findings accordingly. Furthermore, the distinction between two types of positive personality development, that is, adjustment and growth, is used to help clarify the relationship between wisdom and subjective and psychological well-being. We conclude with a discussion of directions for future research on wisdom and well-being.

**Keywords: Wisdom, Well-Being, Adjustment, Growth**

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Wisdom, “the pinnacle of insight into the human condition and about the means and ends of a good life” (Baltes & Staudinger, 2000, p. 122), has been a topic of rapidly growing interest among psychological scientists studying human development, potential, and well-being (Bangen, Meeks, & Jeste, 2013; Karelitz, Jarvin, & Sternberg, 2010; Staudinger & Glück, 2011). The goal of this chapter is to review and discuss the relationship between wisdom and subjective well-being (SWB) and psychological well-being (PWB). To this end, we first outline different definitions and operationalizations of wisdom. Importantly, in this chapter we focus on what has been called explicit theories of wisdom (i.e., how to conceptualize and measure wisdom of individuals based on psychological theorizing) and not on implicit theories of wisdom (i.e., how ordinary people perceive and define wisdom and wise people; cf. Staudinger & Glück, 2011). Next, we describe important indicators of SWB and PWB, the distinction between these constructs, as well as two types of positive personality development (i.e., adjustment and growth; Staudinger & Kunzmann, 2005). Third, we present the results of a review of empirical studies on wisdom, SWB, and PWB published over the past two decades. We conclude the chapter by integrating the findings of our review with the concepts of adjustment and growth, and we outline directions for future research.

## Wisdom

Psychological scientists have investigated the ancient notion of wisdom for nearly 40 years (e.g., Baltes & Staudinger, 1993; Clayton & Birren, 1980; Sternberg, 1990). In their comprehensive review of the psychological wisdom literature, Staudinger and Glück (2011) broadly distinguished between general and personal wisdom. While general wisdom entails insights into life in general, without personal concern, personal wisdom involves people’s insights into their own lives, including personal problems (Staudinger, 2013; Staudinger, Dörner, & Mickler, 2005).

### General Wisdom

Research on general wisdom is based on cognitive research on expertise (i.e., expert knowledge and judgment), and adopts a performance-based view on wisdom in that wise people are assumed to possess and demonstrate greater knowledge and better judgment about fundamental life matters compared

to less wise people. The most prominent approach to general wisdom is the Berlin wisdom paradigm. The Berlin wisdom paradigm defines wisdom as expertise in the fundamental pragmatics of life, that is, exceptional knowledge and judgment about the human conditions as well as life planning, management, and understanding (Baltes & Smith, 1990; Baltes & Staudinger, 2000, see Staudinger & Glück, 2011, for a review of other approaches to general wisdom). With regard to well-being, Baltes and Staudinger (2000) argued that wisdom “involves good intentions. It is used for the well-being of oneself and others” (p. 123). The paradigm proposes five wisdom criteria, including rich factual knowledge, rich procedural knowledge, lifespan contextualism, relativism of values and life priorities, and recognition and management of uncertainty. Wisdom is assessed by scoring participants’ responses to difficult and existential life problems, such as the potential suicide of a friend. The validity of the Berlin wisdom paradigm has been demonstrated in numerous studies (e.g., Baltes, Staudinger, Maercker, & Smith, 1995; Staudinger, Lopez, & Baltes, 1997; Staudinger, Maciel, Smith, & Baltes, 1998; Staudinger, Smith, & Baltes, 1992). These studies have shown that performance-based wisdom is typically normally distributed, with mean values below the mid-point of the measurement scale. With regard to the association with well-being, the paradigm predicts that SWB is a necessary but not sufficient condition in terms of predicting general wisdom-related performance.

### **Personal Wisdom**

Research on personal wisdom is typically based on scholarship in the fields of personality psychology and personality development, and both performance-based and self-report measures have been developed to assess personal wisdom (see Staudinger & Glück, 2011, for a review of different approaches). Mickler and Staudinger (2008) define personal wisdom as the realization of one’s own potential while considering the well-being of others and society. Based on the Berlin wisdom paradigm, they developed and validated a performance-based measure of personal wisdom that involves scoring participants’ answers to a difficult personal problem according to five criteria (i.e., self-knowledge, growth and self-regulation, interrelating the self, self-relativism, and tolerance of ambiguity). With regard to well-being, Mickler and Staudinger (2008) proposed that SWB is a necessary but not sufficient precondition with regard to predicting personal wisdom.

The most prominent self-report measures of personal wisdom were developed by Ardel (2003) and Webster (2003). Ardel (2004) defines wisdom as the combination of cognitive (e.g., desire to understand the truth), reflective (e.g., taking multiple perspectives), and affective (e.g., an empathetic attitude) personality characteristics. She developed a self-report scale, the Three Dimensional Wisdom Scale (3D-WS) to measure these wisdom dimensions. Webster (2007) defines wisdom as “the competence in, intention to, and application of critical life experiences to facilitate the optimal development of self and others” (p. 164). He developed the Self-Assessed Wisdom Scale (SAWS) to measure five dimensions of wisdom (i.e., experience, emotion regulation, reminiscence and reflectiveness, openness, and humor). As personal wisdom is a socially desirable characteristic, scores on these scales are typically highly skewed toward the positive end of the measurement scales. Theoretically, both Ardel (2004) and Webster (2007) predict that their measures of self-reported wisdom are positively associated with indicators of SWB. Consistently, both measures have demonstrated a substantial association with measures of SWB. A common criticism of self-report scales of wisdom concerns their validity, in that wisdom involves critical self-reflection and, therefore, wise people may not rate themselves higher on these scales than less wise people (Staudinger & Glück, 2011). Moreover, when the same individuals are asked to rate both their personal wisdom and their SWB, common method bias (or single source bias) is likely to be a problem, as this approach can lead to artificially inflated correlations between self-reported constructs (Podsakoff, MacKenzie, & Podsakoff, 2012).

## **Subjective and Psychological Well-Being**

SWB (also sometimes referred to as “happiness”) involves individuals’ cognitive judgments and affective reactions when they think about and evaluate the quality of their lives (Diener, 1984, 2000; Diener, Suh, Lucas, & Smith, 1999). In empirical studies, the cognitive component of SWB is typically operationalized as life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985), and the affective component of SWB is operationalized as the balance between experiences of positive and negative affect (Watson, Clark, & Tellegen, 1988). Life satisfaction and affective balance SWB have been distinguished from psychological well-being (PWB), which involves feelings of autonomy, growth, environmental mastery, positive social relations, self-acceptance, personal growth, and purpose in life (Keyes, Shmotkin, & Ryff, 2002; Ryff, 1989). This distinction is very similar to that the one between hedonic and eudaimonic well-being (Ryan & Deci, 2001). Ryff and Keyes (1995) developed a self-report inventory of PWB to measure the six dimensions of PWB just mentioned.

Building on research on personality development and well-being, Staudinger and Kunzmann

(2005) proposed two dimensions of positive personality development across the lifespan (see also Staudinger & Kessler, 2009). In this approach, personality development toward adjustment entails increases in life satisfaction, affect balance, as well as increases in the big five personality characteristics of conscientiousness, agreeableness, and emotional stability (see Digman, 1990). Moreover, the PWB dimensions of environmental mastery, positive relations, and self-acceptance are part of a broader personality adjustment factor (Wink & Staudinger, 2015). Personality adjustment is conceived as the result of individuals coping with normative developmental tasks and it enables individuals to function effectively within societies. The second dimension, that is, personality development toward personality growth, involves increases in openness to experience and the PWB dimensions of autonomy, personal growth, and purpose in life (Wink & Staudinger, 2015). Personality growth involves experiences that go beyond societal requirements, expectations, and structures. According to Staudinger and Kunzmann (2005), a certain level of adjustment is necessary, but not sufficient for growth to occur.

Researchers have argued that wisdom is conceptually closer to the notions of psychological/eudaimonic well-being and personality growth than to subjective/hedonic well-being and personality adjustment (Staudinger & Glück, 2011). Next, we review the empirical literature on wisdom and well-being, with particular attention to specific operationalizations of both wisdom and well-being across studies.

## Review of the Empirical Literature

We conducted a literature review to identify empirical studies on wisdom and well-being. We searched four common databases (i.e., Ebscohost, Google Scholar, PsycInfo, Web of Science) using the following keywords in different combinations: wisdom, wise, well-being, wellbeing, psychosocial, satisfaction, affect, and happiness. We screened out irrelevant studies based on the title and abstract (e.g., abstract that simply referred to “established wisdom in the field”). We also excluded non-empirical book chapters and review articles (e.g., Ardel, 2011; Ardel & Ferrari, 2014; Baltes, Glück, & Kunzmann, 2002; Knight & Laidlaw, 2009; Kramer, 2000). Overall, our search resulted in 28 relevant empirical studies. These studies and their most important findings regarding wisdom and well-being are summarized in Table 1.

**Table 1**

*Empirical Studies on Wisdom and Subjective Well-being (in the Same Order as Reviewed in the Text)*

<u>Authors and Year</u>	<u>Sample and Design</u>	<u>Operationalization of Wisdom</u>	<u>Indicators of Subjective Well-Being</u>	<u>Main Results</u>
<i>Performance-Based Wisdom and Well-Being</i>				
1. Staudinger et al. (1997)	125 adults between 19 and 87 years (mean age = 45.4 years); cross-sectional design	Performance-based general wisdom (Berlin wisdom paradigm)	Psychological well-being (Ryff & Keyes, 1995)	Wisdom was associated with personal growth, but not the other indicators of psychological well-being.
2. Kunzmann and Baltes (2003)	293 participants from three age groups (93 young adults, 93 middle-age adults, and 107 older adults); cross-sectional design	Performance-based general wisdom (Berlin wisdom paradigm)	Positive and negative affect, positive affective involvement	Wisdom was negatively related to both positive and negative affect, and positively related to positive affective involvement.

3. Mickler and Staudinger (2008)	83 younger adults (ages 20–40) and 78 older adults (ages 60–80); cross-sectional design	Performance-based personal wisdom (Berlin wisdom paradigm)	Life satisfaction, positive and negative affect, agreeableness, conscientiousness, psychological well-being (composite of autonomy, mastery, and self-acceptance)	Personal wisdom was unrelated to indicators of subjective well-being.
4. Glück et al. (2013)	47 wisdom nominees and 123 control participants between 26 and 92 years; cross-sectional design	Self-reported wisdom (3D-WS and SAWS) and performance-based general wisdom (Berlin wisdom paradigm)	Psychological well-being (Ryff & Keyes, 1995); personal growth and self-acceptance	Both measures of self-reported wisdom were positively related to both indicators of well-being; performance-based wisdom was not significantly related to well-being.
5. Wink and Staudinger (2015)	163 participants between 68–77 years of age; cross-sectional design	Performance-based general (Berlin wisdom paradigm)	Personality growth and adjustment	Wisdom was positively related to personality growth, personality adjustment, and generativity. The association between wisdom and adjustment/generativity were mediated by growth.
6. Wink and Helson (1997)	94 adults at age 54; cross-sectional design	Self-reported wisdom (practical wisdom scale based on adjective check list) and observer ratings of transcendent wisdom	Life satisfaction	Wisdom measures were not significantly associated with life satisfaction.
7. Helson and Srivastava (2002)	92 participants at ages 21 and 61, and 201 participants at age 60; longitudinal design	Wisdom composite consisting of self-reported practical wisdom, as well as observer ratings of transcendent wisdom and a wisdom task based on the Berlin Wisdom paradigm	Well-being/adjustment (feeling optimistic and in good health), psychological well-being (Ryff & Keyes, 1995)	Wisdom was not significantly related to well-being/adjustment, and positively related to personal growth and positive relations with others.

8. Grossmann et al. (2013)	241 adults from three age groups (25-40, 41-59, 60-90 years); cross-sectional design	Performance-based general wisdom (wise reasoning)	Positive and negative affect, life and relationship satisfaction, rumination, longevity, emotional discourse patterns	Wise reasoning was associated with greater life satisfaction, less negative affect, better social relationships, less depressive rumination, more positive vs. negative words used in speech, and greater longevity. Wise reasoning mediated age-related differences in well-being.
9. Shi, Ardel, & Orwoll (2016)	66 wisdom nominees, 84 creativity nominees, and 92 controls (age range = 53-92 years, mean age = 71.3 years); cross-sectional design	Nominations	Life satisfaction	Wise and creative nominees reported higher life satisfaction than controls, even after controlling for subjective health.
<i>Self-Reported Wisdom and Well-Being</i>				
10. Ardel (1997)	120 older women and men from the 1968/69 Berkeley Guidance Study; cross-sectional design	Self-reported wisdom (3D-WS)	Life satisfaction	Wisdom was associated with life satisfaction above and beyond objective conditions.
11. Ardel (2000)	82 older women from the 1968/69 Berkeley Guidance Study; cross-sectional design; same sample as [10]	Self-reported wisdom (3D-WS)	Life satisfaction	Wisdom was associated with life satisfaction above and beyond objective conditions.
12. Le (2011)	123 community-dwelling adults (age range = 39-96 years, mean age = 64 years); cross-sectional design	Self-reported wisdom (3D-WS)	Life satisfaction	Wisdom was positively related to life satisfaction.
13. Bergsma and Ardel (2012)	7,037 respondents who participated in an internet survey; cross-sectional design	Self-reported wisdom (3D-WS)	Hedonic happiness	Wisdom, particularly reflective wisdom, was positively related to hedonic happiness (especially among people with lower levels of education).
14. Mansfield et al. (2010)	85 community members (age range = 18-71 years, mean age = 39.8 years); cross-sectional design	Self-reported wisdom (3D-WS)	Psychological well-being (Ryff & Keyes, 1995)	Wisdom was not significantly related to psychological well-being.
15. Taylor et al. (2011)	176 participants ranging in age from 18-68 years (M = 36.60); cross-sectional design	Self-reported wisdom (3D-WS; SAWS)	Life satisfaction, forgiveness	Both wisdom scales were positively related to life satisfaction and forgiveness.

16. Ardel et al. (2013)	144 community residents, nursing home residents, and hospice patients between 56-98 years; cross-sectional design	Self-reported wisdom (3D-WS)	Life satisfaction, cheerfulness, absence of depressive symptoms, death fear	Wisdom was combined with measures of mastery and purpose in life. This psychosocial strengths measure predicted SWB above and beyond objective life conditions.
17. Ardel and Edwards (2015)	156 older community residents (mean age = 71 years) and 41 older hospice patients and nursing home residents (mean age = 77 years); cross-sectional design; sample overlap with [16]	Self-reported wisdom (3D-WS)	Life satisfaction, cheerfulness, absence of depressive symptoms	Wisdom was positively related to SWB, especially in the nursing home and hospice sample; the relationship was partially mediated by purpose in life, both directly and via a sense of mastery.
18. Ardel (2016)	123 older community residents (mean age = 72 years); two-wave study over 10 months	Self-reported wisdom (3D-WS)	Subjective well-being, mastery, purpose in life, and physical well-being	Wisdom was positively related to subjective well-being, mastery, purpose in life, and physical well-being at Time 2.
19. Ardel and Jeste (2016)	994 adults aged 51–99 years ( $M = 77$ ) from the Successful AGing Evaluation (SAGE) study; cross-sectional design	Self-reported wisdom (3D-WS)	Positive mental health, happiness, and life satisfaction	Wisdom, in particular reflective wisdom, was positively related to subjective well-being and buffered the negative relationship between adverse life events during the previous year and current well-being.
20. Etezadi and Pushkar (2013)	360 retired older adults (mean age = 61 years, range = 45–79 years); cross-sectional design	Self-reported wisdom (3D-WS)	Positive and negative affect	Coping strategies, perceived control, and life engagement mediate the positive relationships of wisdom with positive and negative affect.
21. Zacher et al. (2013)	175 university students (age range = 17-41 years, mean age = 21 years) and 400 online workers (age range: 16-74 years, mean age = 31.6 years); cross-sectional designs	Self-reported wisdom (3D-WS)	Life satisfaction, positive and negative affect	Positive relationships of wisdom with life satisfaction and positive affect (but not negative affect) became weaker and non-significant when emotional intelligence was controlled.
22. Webster et al. (2012)	512 adults (age range = 17-92 years; mean age = 46.46 years); cross-sectional design	Self-reported wisdom (SAWS)	Mental health (emotional, psychological, and social well-being)	Wisdom was positively related to mental health, above and beyond certain demographic and personality characteristics.
23. Webster et al. (2014)	512 adults (age range = 17-92 years, mean age = 46.46 years); cross-sectional design; same sample as [22]	Self-reported wisdom (SAWS)	Mental health (emotional, psychological, and social well-being)	Wisdom was positively related to mental health.

24. Proctor et al. (2011)	135 undergraduate university students; cross-sectional design	Self-reported wisdom (Values-In-Action strengths classification system)	Life satisfaction, positive and negative affect	General strengths use is positively associated with subjective well-being, but wisdom is one of the least-endorsed strengths.
25. Moraitou and Efklides (2012)	446 adults (age range = 20-80 years); cross-sectional design	Self-reported wisdom (Wise Thinking & Acting Questionnaire)	Positive and negative affect	Wisdom was positively related to positive affect and not significantly related to negative affect.
26. Krause and Hayward (2015a)	1,535 older adults who participated in a nationwide survey (mean age = 63.3 years); cross-sectional design	Self-reported practical wisdom (newly developed 7-item scale)	Life satisfaction	Practical wisdom was positively related to life satisfaction.
27. Krause and Hayward (2015b)	1,535 older adults who participated in a nationwide survey (mean age = 63.3 years); cross-sectional design; same sample as [26]	Self-reported practical wisdom (newly developed 7-item scale)	Self-esteem, hope	Practical wisdom is positively related to self-esteem and hope.
28. Krause (2016)	1,535 older adults who participated in a nationwide survey (mean age = 63.3 years); cross-sectional design; same sample as [26, 27]	Self-reported practical wisdom (newly developed 7-item scale)	Life satisfaction	Wisdom and humility relate positively to life satisfaction; the relationship between humility and life satisfaction is stronger for wise people.

*Note.* 3D-WS = Three-Dimensional Wisdom Scale (Ardelt, 2003); SAWS = Self-Assessed Wisdom Scale (Webster, 2003).

### Performance-Based Wisdom and Well-Being

We identified five studies based on the Berlin wisdom paradigm that investigated relationships between performance-based wisdom and indicators of well-being (Table 1). First, Staudinger et al. (1997) recruited a diverse sample of 125 participants that were assessed using measures of general wisdom-related performance, fluid and crystallized intelligence, personality (including the big five and Ryff's six indicators of PWB), and constructs at the intelligence-personality interface (e.g., creativity, cognitive style). Results showed that of the six PWB indicators, only personal growth was positively related to general wisdom-related performance at the bivariate level. Using backward regression analysis, openness to experience and psychological mindedness, but none of the PWB indicators remained significant predictors of wisdom.

Second, using a sample of nearly 300 participants from three age groups, Kunzmann and Baltes (2003) found that people scoring high in general wisdom-related performance experience both positive and negative affect less frequently than people scoring lower. These researchers suggested that wise people have a more realistic and less positively biased views on life, and that they also possess greater emotion-regulation skills. Furthermore, Kunzmann and Baltes (2003) also reported that people with high levels of wisdom-related performance had a higher degree of affective involvement, which involves experiences such as being interested and feeling inspired, as well as values related to greater personal growth, life insight, societal engagement, others' well-being, and ecological protection.

Third, using a sample of 83 younger and 78 older adults, Mickler and Staudinger (2008) examined associations of performance-based personal and general wisdom with several indicators of SWB. They found non-significant relationships between personal wisdom-related performance and life satisfaction, positive and negative affect, and personality adjustment (i.e., conscientiousness, agreeableness,

environmental mastery, self-acceptance, and autonomy). General wisdom-related performance was also not significantly related to the SWB indicators, with the exception of a moderate positive relationship with life satisfaction (with and without controlling for age). Mickler and Staudinger (2008) concluded that SWB is not a sufficient condition to attain personal wisdom. In contrast, they suggested that critical self-reflection and coping with negative events and emotional states which often are linked with lowering subjective well-being are more important for achieving personal wisdom.

Fourth, Glück et al. (2013) included 47 wisdom nominees and 123 control participants in their study on relationships between different well-established measures of wisdom including both self-report and performance measures. Their analysis showed that performance-based general wisdom as measured with the Berlin Wisdom paradigm was not significantly related to Ryff's PWB indicators of personal growth and self-acceptance.

Fifth, Wink and Staudinger (2015) investigated the relationship of performance-based general wisdom with personality adjustment and growth as well as generativity (i.e., the concern for establishing and guiding the next generation; Erikson, 1950) in a sample of 163 older men and women. They found positive correlations between wisdom and personality growth, personality adjustment, and generativity. Personality growth was operationalized as a composite including openness to experience, psychological mindedness, and a sense of well-being derived from growth, purpose in life, and autonomy. Personality adjustment was a composite of life satisfaction, high agreeableness and conscientiousness, low neuroticism, and a sense of well-being derived from positive relations with others, self-acceptance, and environmental mastery. Using latent path analysis, Wink and Staudinger (2015) further showed that the associations between personality adjustment and wisdom and between generativity and wisdom were mediated by personality growth. According to the authors, these findings suggest that wise people are capable of balancing different personal strengths and interests, and that this integration takes place by pursuing personality growth via personality adjustment.

We identified four additional studies that used interview ratings by trained observers and a nomination procedure to measure wisdom. In an early study, Wink and Helson (1997) found no significant relationship of life satisfaction with self-reported practical wisdom and transcendent wisdom ratings by trained observers. A later longitudinal study by Helson and Srivastava (2002) examined how wisdom related to well-being at ages 21 and 60, and to change in well-being from age 21 to age 61. The researchers created a wisdom composite by averaging scores on self-reported practical wisdom, as well as observer ratings of transcendent wisdom and responses to a wisdom task based on the Berlin Wisdom paradigm. SWB was measured in terms of adjustment (i.e., feeling optimistic and in good physical and mental health) with the California Psychological Inventory, and PWB was measured with the Ryff scales. Results showed that wisdom was unrelated to SWB at age 21 and change in SWB between ages 21 and 61. In contrast, wisdom was positively associated with Ryff's PWB indicators of personal growth and positive relations with others at age 60.

A study by Grossmann, Na, Varnum, Kitayama, and Nisbett (2013) with 241 adults from different age groups measured performance-based wisdom as the extent to which people use pragmatic reasoning to solve social conflicts. The researchers found that wise reasoning was positively related to life and social relationship satisfaction, the use of more positive vs. negative words in speech, and longevity, and negatively related to negative affect and depressive rumination (correlations ranged from .17 to .33). The pattern of relationships remained the same when socioeconomic factors, verbal abilities, and personality traits were statistically controlled. Wise reasoning further mediated age-related differences in participants' well-being, particularly among older adults. Finally, a recent study by Shi, Ardel, and Orwoll (2016) examined personal wisdom and creativity using nominations by others. These researchers included 66 wisdom nominees, 84 creativity nominees, and 92 control participants in their study. Results showed that people nominated as wise and creative reported higher life satisfaction than control participants, even after controlling for subjective health.

In summary, performance-based general as well as personal wisdom do either show none or only weak associations with SWB in the sense of a necessary but not sufficient condition for wisdom. The same holds true for the adjustment-related component of PWB. In contrast, the growth-related component of PWB shows substantial associations with performance-based wisdom measures.

### **Self-Reported Wisdom and Well-Being**

The vast majority studies in our literature review examined associations between wisdom and well-being using self-report scales of wisdom (see Table 1). This outcome is likely due to the ease and practicability of administering self-report wisdom scales (Staudinger & Glück, 2011). Of the 22 studies using self-report scales, 13 studies used Ardel's (2003) 3D-WS, four studies used Webster's (2003) SAWS (note that one study included both the 3D-WS and the SAWS; Glück et al., 2013), and six studies using



other self-report scales (e.g., practical wisdom scale, the values-in-action strengths classification system, wise thinking and acting questionnaire).

**Ardelt's 3D-WS and well-being.** In two early studies, Ardel (1997, 2000) used the 3D-WS to examine the relationship between self-reported wisdom and life satisfaction in samples drawn from the 1968/69 Berkeley Guidance Study. Both studies showed that self-reported wisdom was positively associated with life satisfaction, above and beyond other factors such as age, self-reported physical health, socioeconomic status, financial situation, physical environment, and social involvement. Subsequent studies using the 3D-WS have largely reported consistent results for life satisfaction. Specifically, using a sample of 123 community-dwelling adults, Le (2011) found that self-reported wisdom was positively related to life satisfaction. Similarly, Bergsma and Ardel (2012) reported that self-reported wisdom was positively related to a measure of "hedonic happiness" in a large sample of over 7,000 adults who completed an online survey (9.2% explained variance). Contrary to the authors' expectations, a study with 85 community members by Mansfield, Mclean, and Lilgendahl (2010) did not find a significant relationship between self-reported wisdom and a composite of the PWB scales by Ryff and Keyes (1995). This finding may be due to the PWB scales measuring both personality adjustment and growth (cf. Wink & Staudinger, 2015), and an aggregate score does not take this important distinction into account. However, a study by Taylor, Bates, and Webster (2011) with 176 adults found positive associations between the 3D-WS and both PWB and a measure of forgiveness.

Glück and colleagues (2013) found positive and moderate relationships between self-reported wisdom measured with the 3D-WS and Ryff's PWB indicators of personal growth and self-acceptance. In a study with 144 community residents, nursing home residents, and hospice patients, Ardel, Landes, Gerlach, and Fox (2013) found that a psychosocial strengths measure (including self-reported wisdom, mastery, and purpose in life) predicted various indicators of SWB (i.e., life satisfaction, cheerfulness, absence of depressive symptoms, and low fear of death), above and beyond demographic variables (i.e., age, gender, race, and marital status) and objective life conditions (i.e., physical health, socioeconomic status, financial situation, social involvement). In a later article using a similar sample, Ardel and Edwards (2015) reported that self-reported wisdom (3D-WS) was positively associated with the same composite of SWB, and that this relationship was partially mediated by purpose in life, both directly and via a sense of mastery.

Ardel (2016) conducted the only longitudinal study on self-reported wisdom and SWB to-date. Using a sample of 123 community residents who provided data at two measurement points separated by 10 months, she found that self-reported wisdom measured at Time 1 was positively related to SWB, mastery, purpose in life, and physical well-being measured at Time 2. In another recent study, Ardel and Jeste (2016) found that self-reported wisdom, and especially the reflective component, was positively related to SWB (i.e., life satisfaction, happiness, and positive mental health). Moreover, high levels self-reported wisdom buffered the negative association between adverse life events during the previous year and current SWB.

Two studies examined variables that may account for positive relationships between self-reported wisdom (as assessed by the 3D-WS) and SWB. In a sample of 360 older adults, Etezadi and Pushkar (2013) found that coping strategies, perceived control, and life engagement mediated the positive relationship between self-reported wisdom and positive affect, and perceived control and life engagement mediated the negative relationship between self-reported wisdom and negative affect (controlling for social desirability, health, and sociodemographic variables). Zacher, McKenna, and Rooney (2013) examined self-reported wisdom, emotional intelligence (i.e., the perceived ability to perceive and regulate emotions in oneself and others; Law, Wong, & Song, 2004) in two samples of 175 university students and 400 online workers. They reported that the positive associations of self-reported wisdom with life satisfaction and positive affect (but not negative affect) became weaker and non-significant when controlling for emotional intelligence in the analyses.

In summary, research using the 3D-WS has generally found positive associations between self-reported wisdom and various indicators of well-being. Taking into account, however, that self-reported wisdom, as measured by the 3D-WS, do not differentiate wisdom nominees from matched controls (Glück et al., 2013), limits the meaning of this finding for improving our understanding of the association between wisdom and well-being. Also, research on the potential explanations for these relationships (e.g., coping, emotional intelligence) is still in its infancy, and the vast majority of studies are based on cross-sectional instead of longitudinal designs.

**Webster's SAWS and well-being .** Four articles using Webster's (2003) SAWS found positive associations between self-reported wisdom and well-being. Specifically, Taylor et al. (2011) found that the SAWS was positively related to both PWB and forgiveness. In two articles using the same large sample of

512 adults, Webster, Westerhof, and Bohlmeijer (2012) and Webster, Bohlmeijer, and Westerhof (2014) reported that the SAWS was positively related to mental health (operationalized as emotional, psychological, and social well-being), above and beyond several demographic (i.e., age, gender, education) and personality characteristics (i.e., neuroticism, extraversion, and openness to experience). Finally, Glück and colleagues (2013) found small positive relationships between the SAWS and Ryff's PWB indicators of personal growth and self-acceptance.

**Wisdom as values-in-action and well-being.** Research using self-report measures of wisdom other than the 3D-WS has also generally found support for positive associations between self-reported wisdom and indicators of well-being. First, using the values-in-action strengths classification system (Peterson & Seligman, 2004), Proctor, Maltby, and Linley (2011) examined the association between endorsement of strengths, including wisdom, and SWB indicators in a sample of undergraduate students. While more endorsement of strengths was positively associated with life satisfaction and positive affect, and negatively associated with negative affect, wisdom was one of the least-endorsed strengths and, therefore, its unique association with SWB was not assessed. Second, Moraitou and Efklides (2012) assessed self-reported wisdom with the "wise thinking and acting questionnaire," which they developed for their study. The items of the questionnaire ask participants to rate their practical wisdom, integrated dialectical thinking, and awareness of uncertainty in life. Using a sample of 446 adults, the authors found a positive relationship with positive affect, but no significant relationship with negative affect.

**Practical wisdom and well-being.** In a series of articles based on the same sample of 1,535 middle-aged and older adults, Krause and Hayward examined relationships between a newly developed self-report measure of practical wisdom and various indicators of well-being. Practical wisdom was conceptualized as a higher-order factor comprising self-beliefs regarding learning from mistakes, understanding others, forgiveness, helping others, tolerance of ambiguity, and perspective taking. Krause and Hayward (2015a) found that frequency of church attendance was associated with greater self-reported practical wisdom which, in turn, was positively associated with life satisfaction, experienced awe of god, sense of connectedness with others, and life satisfaction. Krause and Hayward (2015b) reported that self-reported practical wisdom was positively associated with self-esteem and hope. Krause (2016) showed that self-reported wisdom is positively associated with humility values and life satisfaction, and that the relationship between humility and life satisfaction is boosted by greater levels of self-reported wisdom.

In summary, most research on self-reported wisdom and well-being has found positive relationships, independent of the specific operationalizations of self-reported wisdom and SWB. With regard to PWB the findings are mixed as some studies use an average across the six scales and other studies use individual subscales. It seems that personal growth and self-acceptance, indicators of personality maturation towards growth, show moderately positive associations with self-reported wisdom.

## Discussion

We reviewed empirical research on the association between wisdom and well-being as a function of the wisdom and the well-being measures under study. In this section, we discuss the five main conclusions of our review. First, performance-based measures of wisdom show a small but significant association with SWB. More specifically, it is general wisdom scores that demonstrate this relationship whereas personal wisdom does not seem to be related with SWB. This pattern of results may highlight the fact that while being better able to provide advice to others may be associated with better SWB, higher levels in self-related insight and wisdom seem to come at a cost in terms of SWB. This interpretation is supported by the finding that the maturity aspects of psychological wellbeing are more strongly linked with personal than general wisdom (Mickler & Staudinger, 2008).

Second, self-reported wisdom measures show a substantial positive relation with well-being. While research using performance-based measures of wisdom found no significant or only weak associations with SWB, most research using self-report questionnaires to assess wisdom found moderate to strong positive relationships with SWB. There appear to be some differences between self-report measures of wisdom with regard to their associations with well-being (cf. Glück et al., 2013). However, further research using reports from multiple sources (e.g., friends, coworkers) as well as a broad variety of well-being indicators is needed to better understand the reasons for these initial results. The same applies to the association between wisdom and PWB. In particular, it seems that the scales of self-acceptance and personal growth show a positive association.

Third, the distinction between personality maturation toward adjustment and/or growth (Staudinger & Kunzmann, 2005) may be useful to clarify the seemingly contradictory findings on wisdom and SWB. As noted earlier, personality adjustment includes not only personality characteristics such as conscientiousness and agreeableness, but also common indicators of SWB (i.e., life satisfaction and

affective balance). In contrast, personality growth includes openness to experience and certain dimensions of psychological well-being (i.e., autonomy, personal growth, and purpose in life; Ryff & Keyes, 1995). Wisdom researchers have argued that valid measures of wisdom should be more strongly related to personality growth than to personality adjustment, and that personality adjustment may be only a necessary but not sufficient precondition for the development of wisdom (Staudinger & Glück, 2011; Sternberg & Jordan, 2005; Wink & Staudinger, 2015). Indeed, consistent with this assumption, Wink and Staudinger (2015) found that personality growth mediated the association between personality adjustment and performance-based general wisdom.

Fourth, the validity of self-report measures of wisdom may be problematic, as truly wise individuals may not rate themselves particularly high on these instruments (Staudinger & Glück, 2011). And indeed, in a nomination study of wisdom, the self-report measures were not able to differentiate the wisdom nominees from matched controls (Glück et al., 2013). Instead, individuals scoring high on self-reported wisdom may be those who respond in a socially desirable way, which is consistent with personality adjustment. This may explain why most studies reported positive relationships between self-reported wisdom and various indicators of SWB, whereas relationships between self-reported wisdom and PWB, and particularly the growth-oriented dimensions of Ryff and Keyes' (1995) PWB measure, were mixed. Future research assessing performance-based wisdom, self-reported wisdom, personality maturation towards adjustment and towards growth is needed to verify these assumptions.

Finally, our review of the literature showed that most studies relied on cross-sectional designs. Thus, it is important that researchers conduct more longitudinal studies to examine the causal direction of relationships, as well as the (co-)development of wisdom and well-being over time.

In conclusion, researchers have argued for a long time that wisdom does not necessarily come with happiness, but is an indicator of personality growth and a meaningful life (Staudinger & Glück, 2011; Weststrate & Glück, in press). Indeed, gains in wisdom, in particular personal wisdom, may result from overcoming negative challenging life events (Mickler & Staudinger, 2008; Staudinger et al., 2005). Our review showed that performance-based measures of general wisdom are weakly related to indicators of SWB and this association is fully mediated by personality maturation towards growth. Thus, in future research on wisdom and well-being, it will be important to distinguish, both conceptually and empirically, between self-report and performance measures of wisdom as well as between general and personal wisdom. The distinction between personality maturation toward growth (represented by performance-based wisdom measures) and personality maturation toward adjustment (which is represented by most of the self-report wisdom scales) seems to be helpful in understanding some of the seemingly conflicting evidence in the literature.

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