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The science of wisdom: An exploration of excellence in mind and virtue.

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In recent years, psychologists have begun to explore the rare and elusive human quality of wisdom. The challenges they face are many: wisdom is difficult to conceptualise, expensive and time-consuming to study, and no generally agreed definition of wisdom has yet emerged. Rather, researchers have defined it according to their own philosophical orientation and particular work focus. As such, this essay will briefly review the current conceptualisation, definition, and operationalisation of wisdom by principal researchers in this field. Specifically, this will involve a review of the Berlin Wisdom Paradigm and the Three Dimensional Wisdom paradigm. Furthermore, findings on the antecedents and correlates of having and maintaining wisdom will be summarised, and similarities and differences between the models will be discussed.

Although debate on the nature of wisdom has an extensive history amongst philosophers, theologians, poets, and writers its exploration by psychologists is relatively recent. Some attribute this reticence to the early dominance of behaviourism (Robinson, 1990) while others question whether scientific methods can ever fully elucidate the paradoxical, and often ironic, essence of wisdom (Chandler & Holliday, 1990). Wisdom is not only considered a rare human quality (Baltes & Kunzmann, 2003), it is also difficult to conceptualise and operationalise. Furthermore, the complex nature of wisdom makes it both expensive and time-consuming to study (Sternberg, 2004).

Despite such obstacles, researchers have begun to explore this challenging construct. Because wisdom is considered an ideal endpoint of human development, the original impetus for its study evolved in the context of lifespan psychology and the study of aging (e.g., Clayton & Birren, 1980, cited in Sternberg, 1990). Its ongoing investigation has also coincided with expanded conceptions of intelligence within cognitive psychology (e.g., Sternberg, 1998) and a wider exploration of optimal human functioning within positive psychology (Csikszentmihayli & Rathunde, 1990).

Given such diverse perspectives, it is perhaps not surprising that no generally agreed definition of wisdom has yet emerged. Rather, researchers have defined wisdom according to their own philosophical orientation and particular work focus. As such, this essay will review the current conceptualisation, definition, and operationalisation of wisdom by principal researchers in the field. While many others have made valuable conceptual contributions to the study of wisdom (e.g., Labouvie-Vief, 1990; Sternberg, 2004), this brief review will be limited to two widely discussed models: the Berlin Wisdom Paradigm (Baltes & Staudinger, 2000) and Ardel's Three-Dimensional Wisdom theory (2003).

The Berlin Wisdom Paradigm (BWP)

Baltes and colleagues (collectively, the Berlin Group) are renowned for their leading work in the study of wisdom and for their development of the Berlin Wisdom Paradigm (BWP; e.g., Baltes & Smith, 1990, and Baltes & Staudinger, 1993, as cited in Baltes, Staudinger, Maercker, & Smith, 1995). Their conception of wisdom adheres closely to historical and philosophical analyses in the Western tradition, which views wisdom as the pinnacle of human thought and judgement about the personal and common good (Baltes & Kunzmann, 2004). As such, they define wisdom as "an expert knowledge system in the fundamental pragmatics of life" (Baltes & Staudinger, 2000, p. 122). Their term 'fundamental pragmatics of life' refers to knowledge about important and uncertain aspects of life meaning and conduct, including life planning, management, and review. From this perspective, wisdom is a collectively-anchored product; its true nature exists independently of its manifestation within people who are but partial and imperfect carriers of wisdom-related knowledge. As such, the Berlin Group has argued that the study of wise persons can only reveal an approximation of wisdom. They maintain that higher forms of wisdom, which go beyond the personal qualities of wise persons, are found in collective cultural artefacts such as proverbs, religious tomes, and scientific discourses, and it is from such expert sources that an explicit theory of wisdom must be deduced (Baltes & Kunzmann, 2003). For the Berlin group, wisdom involves both specific knowledge about the meaning and conduct of life and general knowledge about human nature that transcends given cultural contexts and historical periods (Baltes & Kunzmann, 2003).

Based on this definition, the BWP was developed for the empirical assessment of wisdom-related knowledge (e.g., Baltes & Staudinger, 2000). Hypothetical vignettes about challenging and uncertain life problems

(intentionally ill-defined and characterised by multiple solutions) are presented to subjects who are asked to think aloud as they work through the issues involved. Responses are evaluated on a seven-point scale using five criteria considered to define wisdom-related knowledge: (1) rich factual knowledge in the fundamental pragmatics of life, (2) rich procedural knowledge in the fundamental pragmatics of life, (3) lifespan contextualism (consideration of the historical and social context of development), (4) value relativism (acknowledgement and tolerance for value differences), and (5) awareness and management of the uncertainty and limitation inherent in the human condition. A response is considered 'wise' only if it is rated greater than five on all criteria (Baltes & Staudinger, 2000).

Over several years the Berlin Group has applied its think-aloud technique to the assessment of wisdom-related knowledge and judgement capacity, producing an impressive body of work. First among their findings is confirmation that high levels of wisdom are rare (Baltes & Kunzmann, 2003). Less anticipated is the finding that the primary age window for the emergence of wisdom-related knowledge is late adolescence and early adulthood, there being no advance in the *average* level of wisdom evident in older samples (Smith & Baltes, 1990). For the highest levels of wisdom-related knowledge to develop, it was found that a complex coalition of enhancing factors must coalesce (e.g., having a motivation toward excellence, mastery of critical life experiences, and access to guidance by mentors). However, when such personal characteristics and facilitative experiential contexts coincide, more older than younger adults are in the top 20% of performers (Baltes et al., 1995).

Further research using the BWP found that personality-related factors such as openness, generativity, creativity, or a judicial cognitive style were more predictive of wisdom-related knowledge than is intelligence was (Staudinger, Lopez, & Baltes, 1997, cited in Baltes & Kunzmann, 2003). In addition, specific experiences such as expertise in a field dealing with difficult life problems (as in the helping professions) or exposure to certain idiographic events and mastery of these experiences, contributed to acquisition of wisdom. In an important finding for the Berlin group, public figures nominated as wise by independent experts scored higher on BWP tasks than comparison groups of similarly aged and educated adults, providing support for the ecological validity of their construct of wisdom (Baltes et al., 1995). In sum, the Berlin findings suggest wisdom is not simply a function of personality or intelligence. Rather, it involves "an orchestration of mind and virtue toward excellence" (Baltes & Staudinger, 2000, p. 132). In addition, the acquisition of high levels of wisdom-related knowledge, beyond an average level available to many, is dependent on a coalition of multiple experiential factors.

Ardelt's Three Dimension Paradigm of Wisdom

While the Berlin group has conducted classic work on wisdom, its emphasis on *expert knowledge* has not gone unchallenged. Ardelt (2004a) expressed concern that the Berlin paradigm's conceptualisation of wisdom may be tapping into *advanced cognitive functioning* rather than wisdom, which may account for their counter-intuitive finding of its primary emergence in early adulthood. In her own research, Ardelt conceptualised wisdom as a personal quality possessed by wise persons. While higher levels of wisdom-related knowledge may reside within cultural artefacts, Ardelt has argued that such wisdom has little meaning if it has not been 'realised' by an individual through a reflection on personal experiences. In her view, it remains theoretical or intellectual knowledge until such time as a person re-transforms the knowledge into wisdom.

Accordingly, Ardelt proposed the *three dimension view* where wisdom is defined as a personal quality that reflects an integration of cognitive, reflective, and affective personality characteristics, each of which must be present for a person to be considered 'wise' (Ardelt, 2003). The three dimension view is more consistent with Eastern philosophical and religious traditions that regard wisdom as the integration of mind and virtue at the personal level of the sage (Ardelt, 2004b). Drawing upon explicit theories within these traditions and previous research on implicit theories amongst laypersons (e.g., Clayton & Birren, 1980, and Holliday & Chandler, 1986, as cited in Ardelt, 2003), Ardelt has proposed a relatively parsimonious model of wisdom.

As stated earlier, Ardelt's three dimension conceptualisation of wisdom involves a person's cognitive, reflective, and affective personality characteristics (2004a). Its cognitive dimension reflects a desire to know the truth and to attain a deeper understanding of life, including acceptance of the contradictory aspects of human nature, the limits of knowledge, and life's unpredictability. To achieve this deeper comprehension of reality one first has to overcome one's subjectivity and projections (i.e., tendency to blame others for one's own situation) through the practice of reflection. The reflective component represents self-examination, self-awareness, and the ability to observe phenomena from different perspectives. As reflection is likely to reduce one's self-centredness and promote greater empathy for others, the affective component consists of a wise person's sympathetic and compassionate love for others (Ardelt, 2004a). Wisdom is then an ideal state that might rarely exist in reality. However, when viewed as a continuum, it

becomes possible to assess how close people come to the theoretically constructed ideal of a wise person (Ardelt, 2004b). Ardel maintained that her model is as much a theoretical construct as the Berlin model, with the exception that it combines both implicit and explicit theories of wisdom and focuses on an ideal type of wise person rather than the ideal type of wisdom-related knowledge.

While most researchers agree it may be difficult, even impossible, to measure wisdom directly, Ardel (2004a) maintained it can be assessed indirectly through cognitive, reflective, and affective indicators that are essential elements of the latent variable wisdom. In contrast to BWP's maximal-performance approach (i.e., solving a challenging hypothetical problem), Ardel used a typical-performance approach (i.e., describing how one typically responds to a situation). In her earliest research, Ardel selected items from extant scales measuring her three dimensions to examine wisdom in old age (Ardelt, 1997, cited in Ardel, 2003). In a follow-up study (Ardelt, 2003), semi-structured interviews were conducted and participants were rated on each of the three dimensions. Cognitive, reflective, and affective characteristics (e.g., objectivity, analysis, insight, perspective-taking, warmth, and compassion) were then used as effect indicators of the latent variable wisdom on life satisfaction. Wisdom was found to be a more important predictor of life satisfaction than several more objective indicators (physical health, socio-economic status, finances, physical environment, and social involvement) and, with the exception of physical health, wisdom was unrelated to these measures. This implies that, irrespective of their particular circumstances, wise elders were more likely to be satisfied with life because they were better able to deal with the vicissitudes of life. A supportive social environment during early adulthood had a significant impact on wisdom more than 40 years later, whereas personality characteristics in early adulthood and quality of childhood had no lasting effects (Ardelt, 2000, cited in Ardel, 2003). In line with the Berlin research, this finding suggests the capacity for wisdom is not simply a variant of personality. It was also found among those who experienced economic hardship (the Great Depression): relatively wiser adults experienced improvement in their psychological health during and after this event, while less wise adults experienced a decline in well-being (Ardelt, 1998). However, Ardel noted that crises and hardships in a person's life did not automatically result in wisdom. Rather, development of wisdom required a willingness to learn from life's lessons and to be transformed in the process; without this commitment, such challenges may lead to psychological disintegration rather than wisdom.

Ardelt (2003) has more recently developed the Three-Dimensional Wisdom Scale (3D-WS), comprised of 14 cognitive, 12 reflective, and 13

affective items. Wisdom scores on the 3D-WS obtained in a study of a close-knit group of older people were positively associated with general well-being, mastery, purpose in life, and subjective health. Scores were negatively related to depressive symptoms, feelings of economic pressure, death avoidance, and fear of death, and unrelated to financial status, marital status, retirement status, gender, race, and social desirability. High scorers on 3D-WS were also more likely to be nominated as wise by other members of the group. Importantly, the results supported Ardel's claim that high scores on all three dimensions were necessary to be considered wise.

It is perhaps in the nature of scientific debate that researchers investigating wisdom have tended to emphasise the differences between their models. However, in the process of this review it has emerged that their respective conceptions of wisdom also have much in common and that some perceived differences may be due to misunderstandings and misinterpretations of each others work (e.g., Ardel, 2004b; Baltes & Kunzmann, 2004). Despite such divergent approaches, their empirical findings have tended to converge on a view of wisdom that is multi-dimensional, involving the superior integration of cognitive, reflective, and affective elements that reinforce each other in the development of expert knowledge about 'the fundamental pragmatics of life.' Both acknowledge the preliminary nature of their work and that much extension of their work is required. Research on wisdom would particularly benefit from the employment of longitudinal studies to extend the cross-sectional research already conducted on the two wisdom paradigms.

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