DOI: 10.26387/bpa.2022.00008

The role of wisdom for enhancing social well-being and positive aging in old age

Manuela Zambianchi

University of Bologna, Italy
University Institute ISIA, Faenza, Italy

manuela.zambianchi@unibo.it
zambianchi_manuela@isiafaenza.it

ABSTRACT. La saggezza costituisce un'area crescente di ricerca, anche per la sua rilevanza per l'invecchiamento positivo. In questo studio è stato adottato il modello tridimensionale della saggezza (Competenza e conoscenza pragmatica; Pensiero dialettico post-formale; Gestione dell'incertezza del futuro; Moraitou & Efklides, 2012) ed esplorato nelle sue associazioni con il Benessere sociale (Keyes, 1998). Un gruppo di 155 persone anziane (età media 68.98; *DS* = 6.68; 49 maschi e 106 femmine) hanno partecipato allo studio e compilato il *Questionario sul Benessere sociale* ed il *Questionario sul pensiero e azioni sagge* (Moraitou & Efklides, 2012). La saggezza intesa come conoscenza pragmatica risulta correlata positivamente con l'Integrazione sociale, l'Accettazione sociale, la Coerenza sociale ed il Benessere sociale globale. La saggezza intesa come pensiero integrato dialettico post-formale risulta associata con quasi tutte le dimensioni del Benessere sociale e con il Benessere sociale globale. Il pensiero dialettico post-formale apporta un sostanziale contributo alla varianza spiegata per il Benessere sociale globale, dopo aver controllato le variabili età, genere, titolo di studio e l'interazione tra genere e titolo di studio. Esso contribuisce positivamente anche alle componenti Attualizzazione sociale, Coerenza sociale, mentre la competenza pragmatica contribuisce alla dimensione Contributo sociale. È stata fatta una riflessione sulle implicazioni dei risultati.

SUMMARY. Wisdom constitutes a growing area of research, also for its relevance for positive aging. In this study the three dimensional model of wisdom (Pragmatic competence and knowledge; Integrated dialectical post-formal thinking; Future uncertainty management; Moraitou & Efklides, 2012) was adopted and explored in its associations with Social well-being (Keyes, 1998).A sample of 155 old people (M age = 68.98; SD = 6.68; 49 males and 106 females) took part in the study, filling in the Social Well-being Questionnaire (Keyes, 1998) and The Wise Thinking and Acting Questionnaire (Moraitou & Efklides, 2012). Wisdom as Pragmatic knowledge resulted positively associated with Social integration, Social acceptance, Social coherence and overall Social well-being. Wisdom as Integrated post-formal dialectical thinking resulted in being positively associated with almost all the components of SWB and with overall SWB. Integrated post formal dialectical thinking emerged as a significant contributor to the explained variance for overall SWB, after controlling for age, gender and school education as structural variables. It also gives a positive contribution to the explained variance for the sub-components Social contribution and Social coherence. Wisdom as Pragmatic competence gives a contribution for the Social contribution dimension. A reflection on the implication of results has been made.

Keywords: *Positive aging, Wisdom, Social well-being, Positive aging*

INTRODUCTION

Social well-being as a fundamental dimension for positive aging

The issue of positive aging has become of growing importance in recent decades due to the demographic revolution that involves a large part of the world. This progression increases life expectancy (Eurostat, 2020), which highlighed the need for further research on the factors that promote positive and healthy aging (WHO, 2020).

Rowe & Khan (1997) adopted a systemic perspective on successful aging, defining it as a possible outcome of old age. It is characterized by the presence of high physical, high cognitive and personality resources, which allow an active participation in social life. According to this perspective, continuing to actively participate in social life is the core criterion of positive aging, which highlights the importance of the social context of life and the social resources for the well-being of the elderly.

The Complex model of proactive aging elaborated by Kahana, Kahana and Lee (2014) highlights the role played by proactivity (the attempt made by the individual to actively intervene in the social context of life) throughout the life span. According to the authors, even an elderly person maintains the ability to actively intervene for modifying non-functional aspects of life through agentivity. This factor is closely linked to the perceived self-efficacy (Bandura, 1997) and the ability to act strategically to prevent potentially critical situations or negative outcomes. In this perspective, the social resources and the active participation in social life are fundamental factors for a high level of perceived life quality. Their relevance is confirmed by Pozzi and colleagues (Pozzi, Marta, Marzana & Gozzoli, 2014), that found a positive contribution of the sense of community for psychological well-being in old age.

The issue of participation in social life and its contribution to the positive functioning of old people has also been highlighted by the Social production function theory, (Lindenberg, 2013; Stevernik, 1999; Stevernik, Lindenberg, Spiegel & Nieboer, 2020). According to the authors, human beings are characterized by three basic needs: the need for affection; the need for confirmation (to be confirmed on the validity and appropriateness of one's behavior); the need for esteem and status. The possibility of an elderly person to be able to continue to frequent social environments capable of satisfying these universal human needs (Stevernik & Lindenberg, 2006) and to receive from them both a positive sense of belonging at the level of social identity (confirmation), and the esteem for a valued expertise, represents a fundamental factor at general level of functioning and for the prevention of possible future pathologies. Kim et al. (2021) introduced the concept of resilient aging. In the perspective of these authors, it is connected to multiple factors, including the social components of well-being. They hypothesized that psychological well-being and social well-being exert a protective effect against stressors, but, when they occur, they also buffer against the health related impact of excessive stress.

A longitudinal study (MIDUS study, Midlife in the USA; Keyes & Shapiro, 2004) examined the factors that, over time, increase the level of Social well-being in the elderly, defined as the quality of the relationship between the individual and the proximal social context (such as neighbors) and distal (the society in the broader sense) (Keyes, 1998). Among these factors, the level of education proves to be of particular importance: as school education increases, we can observe a higher level of social participation, the belief in being able to make a significant contribution to society, the belief in the potential of society for the well-being of its citizens.

The relevance of social activities and the possibility to actively select them has been found in the study of Dawson-Townsend (2019) and Baersiswyl and Oris (2021) to be positively connected with well-being in old age, giving support to the proactive perspective elaborated by Kahana et al. (2014). A longitudinal study (Saadeh et al., 2019) explored the relationships between social and psychological well-being in a large sample of Swedish older people. The former assessed the frequency of attending theater concerts, traveling, participating in social groups, social connection with friends and relatives, the latter assessed the level of life satisfaction, positive and negative affect. Results confirm the contribution of both dimensions of well-being for reducing, over time, the decline in physical functioning. A study (Zambianchi, 2015) investigated the presence of life projects in the family, cultural, civic participation and volunteer areas, free time and non-competitive sports in a sample of Italian elderly in relation to the use of proactive strategies of coping, confirming how they are associated with the presence of numerous projects in different areas of life even in old age.

The contemporary digital society provides other potential resources for enhancing social well-being and participation in old age. The propensity to use ICTs (Internet Computer

Technologies) and technological innovations produced at the digital level is also associated with greater social well-being in the elderly (Heo et al., 2015; Zambianchi & Carelli, 2016).

The temporal orientation represents an additional factor associated with social well-being. A study conducted on a sample of elderly people (Zambianchi & Ricci Bitti, 2013), where the role played by the temporal perspective was investigated, (Carelli, Wiberg & Wiberg, 2011; Zimbardo & Boyd, 1999) highlighted how social well-being is significantly but negatively associated with the negative past and the fatalistic present, which designates the presence of critical or traumatic experiences not yet processed and the belief of not being able to exercise any control over life events. The future positive, conceived as the presence of objectives and projects, influences social integration and the belief that the society is developing through the evolution of institutions and laws. The present conceived as the ability to enjoy interpersonal relationships positively affects global social well-being.

A factor that philosophical speculation has already associated with active participation in society for centuries (Aristotle, 384 b.C.-322 b.C.) is represented by wisdom. In every philosophical cross-cultural perspective wisdom over the centuries has been associated with the old age. Although there is a growing body of research on wisdom assessing its relationships with individual psychological dimensions, including psychological well-being, very few studies have investigated its relationships with the social dimensions of well-being. Therefore, this aspect could constitute an expansion of knowledge about wisdom and its contribution to the positive functioning of the old people.

Wisdom and its relationship with positive human functioning. Its potential relevance for social well-being of the old people

The theme of wisdom has been the subject of philosophical reflection for millennia in every human culture. Western culture has already developed various theories on wisdom and its characteristics, starting with classical Greek philosophy. The philosopher Aristotle (384 b.C.-322 b.C.) deepened its characteristics and outcomes into the book *Nicomachean ethic,* sustaining that it represents the expression, in old age of virtues firmly rooted in political exercise and participation in the life of the polis. Latin philosophers Seneca (4 b.C.-65 a.D.) defines wisdom as the *medium* through which people can reach inner freedom and awareness to be a part of the *logos*, defined as a rational divine principle that governs the world. In the Bible there are numerous references to the theme of wisdom, e.g. wisdom as the ability to choose the best course of action (Ecclesiaste, 8:1). As for non-western cultures, Buddhism has deepened the question of wisdom, defining it the means to be able to reach the ultimate reality (*prajna*).

Only recently has wisdom become an object of study by psychology, thanks to the demographic revolution (Eurostat, 2020) which has brought to light the question of the expansion of life expectancy. Wisdom indeed has been defined for centuries as a dimension proper to this phase of life.

Yang (2008) classified several models of wisdom: 1) as a personality characteristic; 2) as a positive result of development; 3) as a collective system of knowledge about the meaning and conduct of life; 4) as a real-life process that is completed after certain effect are generated.

From the positive psychology' perspective, wisdom is regarded as an authentic character strength (Peterson & Seligman, 2004). According to this perspective, there are authentic character strengths (mechanisms or processes that lead to virtuous behaviors; Peterson & Seligman, 2004) owned by the individual (and also the communities) which represent fundamental resources for enhancing psychological well-being and for a trusting and constructive relationship with others and society. Wisdom has also been included as an individual's strength, and is identified with the use of creativity, the presence of intellectual curiosity, the ability to judge, the love of learning and the possession of a broad perspective and vision of problems.

Among the most relevant theories on wisdom, its genesis and its characteristics, the one developed by Baltes and colleagues (Baltes & Freund, 2003; Baltes & Kunzmann, 2003) inserts this dimension within the evolutionary perspective of the entire life span, considering wisdom as one of the most positive outcomes in old age. For Baltes & Smith (2008) indeed there is a general agreement that the acquisition of wisdom requires time and effort and that it involves some combination of education, practice, apprenticeship, personal experience and deliberate reflections about life matters (p. 57). Baltes and colleagues tried to integrate the principles of wisdom as philosophical -historical reflections with the psychological perspective of life span development (Baltes & Staudiger, 1996), integrating them into the so called Berlin wisdom paradigm. It combines a broad definition of

wisdom as excellence in mind and virtues with a specific characterization of wisdom as an expert knowledge system dealing with the conduct and understanding of life. There are five criteria that compose the construct of wisdom for the Berlin wisdom paradigm:

1) factual knowledge about the fundamental pragmatics of life; 2) strategic knowledge about the fundamental pragmatics of life; 3) awareness of relativism of values and goals; 4) knowledge about the fundamental uncertainties of life and ways to manage them; 5) knowledge about the contexts of life and how they change over time.

Baltes and Smith (2008) tried moreover to connect wisdom to the research on optimal development and aging. Indeed for Baltes and Smith (2003) wisdom provides a balanced picture of old age as potentially being a period of psychological vitality as well as one of inevitable physical loss. They maintained that a special need for wisdom has emerged over the last 100 years due to the aging demographics of many countries around the world.

From a cognitive perspective, wisdom has been deepened starting from the post-Piagetian perspective (Demetriou & Efklides, 1994), which has identified a further stage after the formal thinking operations, that was conceptualized by Piaget (1970) as the last stage of intelligence evolution of humans. In this perspective, adult cognitive development cross the theme of wisdom and its manifestation into different domains, including the epistemic domain (Perry, 1970).

Wisdom in the post-Piagetian cognitive perspective is framed within the development of post-formal dialectical operations (Kallio, 2011; Labouvie-Vief, 2015; Labouvie-Vief & Diehl, 2000; Moraitou & Efklides, 2012). In this perspective dialectical-post-formal thinking turns out to be a fundamental dimension for the expression of wisdom, as highlighted by Kramer's research (2003). According to the authors, the achievement of post-formal dialectical thinking represents a key element in the possibility of expressing wisdom since it is through this cognitive process that the person manages and approaches the relevant issues in a complex way, especially if they are ethical-moral in nature. The post-Piagetian cognitive theoretical perspective was adopted by Moraitou & Efklides (2012), which defines wisdom as a specific form of thought characterized by three interconnected dimensions: the pragmatics of life, that is close to the definition of wisdom elaborated by Baltes and colleagues; the post-formal dialectical thinking (the ability to deal with complex questions, often with ethical or bio-ethical quality and to find innovative integrated solutions that goes beyond choosing between two dilemmatic horns) and the management of future uncertainty (that corresponds to the deep awareness of uncertainty about future together with the awareness of human finitude).

Kallio (2011; 2015; 2020) sustains that the so called integrative thinking constitutes the key of the adult reasoning. It is based not only on the ability of considering simultaneously the antinomic solutions of a dilemma, but instead integrating them into a new interpretation, different because it is a new and more complex definition of the issue. As indeed she stated: "The term *integrationem* presupposes renewal and something that has not existed before it is born […]. The models of post-formal relativistic dialectical thinking, as well as the models of wisdom and epistemic understanding, definitely have this kind of key elements included in them" (Kallio, 2011, p.12). Commons & Bresette (2006) has described the further development of causal thinking as a progress towards more complicated causal structures: systematic, meta-systematic, paradigmatic and cross-paradigmatic reasoning. According to them, the highest forms of logical reasoning are integrative.

Dialectical post-formal thinking turns out to be a fundamental dimension for the expression of wisdom, as highlighted by the research of Kramer (2003).

The model elaborated by Ardelt (1997; 2009) conceptualized wisdom as a construct made up by three dimensions: cognitive, reflective and affective. The cognitive dimension of wisdom refers to a person's ability to understand life, that is, to comprehend the significance and deeper meaning of phenomena and events, particularly with regard to intrapersonal and interpersonal matters. It comprehends also the knowledge of the positive and negative aspects of human nature, and the knowledge of life's unpredictability and uncertainties. The reflective dimension is considered as a prerequisite for the development of cognitive dimension of wisdom. It corresponds to the perception of the reality as it is, without any major distortions, the reduction of one's self-centeredness, subjectivity and projection, together with ability of introspection, tolerance of ambiguity, as mature defensive mechanisms. The affective dimension includes the presence of positive emotions towards the other people, empathy and compassion.

Nussbaum (2001) maintained that the hallmark of wisdom is knowing how, where and when to take risk and to deal with uncertainty, recalling the perspective of Moraitou

& Efklides on wisdom as ability to navigate in expert ways the difficulties of life and to deal with the anxiety of the future.

For Kekes (1983, 1995), wisdom requires interpretative, rather that descriptive knowledge. It consists of a rediscovery of the significance of generally known facts for own life and for life of others, leading to a deeper understanding of salient phenomena and events.

The role of wisdom on positive functioning in old age has been investigated through several research, especially for the emotional well-being and perceived life quality (Zacher & Staudiger, 2018).

Moraitou & Efklides (2012) in a study with the *WITHAQ Questionnaire*, found that the dialectical thinking is related with positive affect states and memory efficiency; the expression of wisdom through the expert knowledge of life is also associated with positive affect, while the awareness of future uncertainty shows a positive association with negative affect states.

Ardelt (1997), in a study on subjective well-being in old men and women, highlighted that wisdom possesses a strong and positive impact on women's life satisfaction in old age. In this study it was highlighted that age in itself may have a negative impact on life satisfaction for women, but this effect is counterbalanced by wisdom, which is positively related to life satisfaction and age. Also for men, wisdom reduces the positive impact of physical health; however, for men age remains a negative predictor of life satisfaction, without an interaction effect of wisdom. She highlights also that people which are able to perceive a deeper and a more comprehensive truth, have transcended their subjectivity and projections, they feel empathy for others which will ultimately have a positive influence on society through their connections with other individuals (Orwoll & Perlmutter,1990). Hence, she argued, instead of being a burden for younger generations, wise older people could be an invaluable asset for society by guiding the young. Ardelt and Edward (2016) again highlighted how, in a longitudinal study, wisdom is positively associated with subjective well-being, mastery and purpose, and to physical well-being.

The effect of gender on wisdom has brought controversial results: as highlighted Moraitou & Efklides (2012), results of studies about practical wisdom and post-formal dialectical thinking evidenced no differences between men and women, while the concept of wisdom elaborated by Ardelt (2008) which comprises also empathy resulted as more prominent in women.

Wisdom and social well-being: what is the link? Studies that evaluate the relationship between wisdom and (perceived) quality of the relationship between the individual and the social context are still scarce, despite the philosophical reflections for centuries that have envisioned a close link between the expression of wisdom and the active participation of the elderly person in society.

One study, qualitative in its nature (Igarashi, Levenson & Aldwin, 2018) highlighted the role of social context in the development of wisdom after major personal crises or critical events in a group of adults and old people. Since the active participation of the old people to the society is regarded as one hallmark of positive aging (Kahana et al., 2014; Rowe & Khan, 1997), wisdom can represent an important dimension for reaching this outcome.

Adopting the conceptual model of Moraitou & Efklides, it can be hypothesized that complex post-formal thinking style could lead to a positive attitude toward the society and its potential evolution, while pragmatic competence (Baltes & Smith, 2008) could favor the participation of the oldest to the society, giving them a deeper understanding of the ways to navigate its complexity. For these reasons, the knowledge of the relationship between wisdom, as conceptualized by Moraitou & Efklides (2012) and Social well-being as conceptualized by Keyes (1988) could represent an expansion of the knowledge of the phenomenon of wisdom.

OBJECTIVES AND HYPOTHESES

The study had the following objectives and tested the following hypotheses:

- evaluation of the level of Social well-being and wisdom in old age;
- evaluation of the correlations between the dimensions of wisdom (pragmatic knowledge; post-formal dialectical thinking; management of future uncertainty and awareness of human finitude) and Social well-being, as global score and in its sub-components. It was hypothesized that wisdom as pragmatic knowledge and post-formal dialectical thinking is positively correlated with overall Social well-being and its sub-components (H_1), while for wisdom as management for future uncertainty and awareness of human finitude no precise hypotheses have been formulated;
- evaluation of the contribution of structural variables gender and school education on wisdom and Social well-

being. On the basis of previous studies (Keyes & Shapiro, 2004), it was hypothesized that a higher level of school education is related to a higher level of Social well-being and to higher level of wisdom as post-formal dialectical thinking (H_2). For gender, given the controversial results obtained (e.g. Moraitou & Efklides, 2012), no specific hypotheses has been formulated;

– evaluation of the correlations between wisdom and Social well-being as global score and with its components. It was hypothesized positive correlations between wisdom as pragmatic competence and Social well-being, between wisdom as post-formal thinking and Social well-being (H_3);
– evaluation of the contribution offered by the three components of wisdom for overall Social well-being and for its specific sub-components, after controlling for structural variables age (as continuous variable), gender and school education and the interaction between gender and school education. It was expected a significant contribution of wisdom as post-formal dialectical thinking and wisdom as pragmatic competence for Social well-being. (H_4).

METHOD

Participants and procedures

155 old people took part in the study (*M* age = 68.98; *SD* = 6.68), 49 males 106 females. For their level of school education, 4 possess the elementary license; 27 middle school diploma, 78 high school diploma and 45 degree. They were recruited through Institutions such as Universities for the third age and Senior social centres, and also Trade associations. The questionnaires were filled in several cases with the presence of the author, and in other cases in their homes, without the presence of any researcher. The elderly did not encounter any problems with the text comprehension. After a brief explanation of the research, where they had been informed of the anonymity of the research to guarantee privacy they gave their consent to participate in the study.

Instruments

– The *SWB Questionnaire* (Keyes, 1998; It. tr. Cicognani, Albanesi & Berti, 2001). This questionnaire contains five dimensions that evaluate the quality of individual functioning in social life : Social actualization (n. 7 items; e.g. of item "I think the world is becoming a better place for everyone"), Cronbach's α = .79; Social contribution (n. 6 items; e.g. of item "I believe to have something valuable to give to the world"), Cronbach's α = .83; Social acceptance (n. 7 item; e.g. of item "I believe that people are kind"), Cronbach's α = .81; Social integration (n. 7 item; e.g. of item "I feel close to other people in my community"), Cronbach's α = .81; Social coherence (n. 6 item; e.g. of item "The world is too complex for me" with reverse code), Cronbach's α = .58. The items were assessed with a 7-point Likert-type scale (1 = strongly in disagreement, 7 = strongly in agreement).
In the current sample, the internal Cronbach's α consistency of overall Social well-being was .82.
– The *WITHAQ Questionnaire* (Moraitou & Efklides, 2013; It. tr. Zambianchi, 2020). The questionnaire has been translated from English language into Italian language by the author of the article and, independently, by an English native-speaker teacher. After, it was subjected to an exploratory factor analysis (EFA) and scree-test (Cattell, 1950), that confirm the original three-factor solution of the Greek authors (see Appendix). A confirmatory factor analysis (CFA) was run, with the three factors intercorrelated. The RMSEA Steiger-Lind index was .80, the GFI of Joreskog was of .90, and the Bentler index was .92. They indicate an acceptable goodness of fit of the model. A CFA model with not correlated factors returned unsatisfactory indexes: RMSEA Steiger-Lind = .108; GFI Joreskog = .87; Bentler index = .78.
The WHITAQ contains 13 item and is composed by three dimensions: wisdom as pragmatic competence (n. 4 items; e.g. of item: "Through the experience and the knowledge I have obtained so far, I have built well-formulated views and attitudes as far as important moral matters of modern life are concerned", Cronbach's α = .72; original text by Moraitou & Efklides: Cronbach's α = .75); wisdom as integrated post-formal dialectical thinking (n. 6 items; e.g of item: "When I discuss with other people or with myself about life issues, I can usually distinguish different arguments, e.g., which are the strongest in terms of reason or the strongest from a more subjective, experiential point of view"; Cronbach's α = .78; original text by Moraitou & Efklides: Cronbach's α = .70); wisdom as awareness of future uncertainty (n. 3 item; e.g. of item "I often think about death. This makes me get cold feet and on

the other hand, it teaches me not to pay much attention to transient glory, wealth and the small daily problems", Cronbach's α = .59; original text by Moraitou & Efklides: Cronbach's α = .60). The score was computed on a 5-point Likert scale (1 = completely untrue; 5 = completely true).

Analysis

Statistical analyses were run in four steps. First, mean, standard deviations, skewness and kurtosis of all variables were calculated. Then, multivariate analyses (MANOVAs) explored the differences for gender and school education on the factors SWB and wisdom. For school education only three levels have been included: middle school diploma, high school diploma, degree. In the third step correlational matrices (Pearson *r*) were calculated. Finally a set of general linear models (GLM) evaluated the contribution offered by the components of wisdom on overall Social well-being and for each of its sub component, after controlling for age (as continuous variable), gender, school education (three levels) and the interaction between gender and school education. GLM was chosen for the possibility to check the interaction of the structural variables on the dependent variable, resulted in a more detailed model of explanation.

RESULTS

- *Descriptive statistics of the sample. Level of wisdom and Social well-being.* Wisdom defined as pragmatic competence has the highest score, while wisdom as management of future uncertainty has the lowest score. For Social well-being, older people show a medium-high level of global social well-being, while for its sub-dimensions the highest score belongs to Social integration, followed by Social coherence and Social contribution. The lowest score is observed on the dimension of Social acceptance (see Table 1).
- *Correlations between the dimensions of WHITAQ Questionnaire*. The Pearson correlation matrix highlights

Table 1 – Descriptive statistics of the sample for wisdom and Social well-being

Variable	*M*	*SD*	*Skewness*	*Kurtosis*
Wisdom as pragmatics of life	3.83	.55	.02	.21
Wisdom as post-formal thinking style	3.66	.68	–.29	.62
Wisdom as future uncertainty management	3.00	.92	–.05	–.46
Social Integration	4.76	.78	–.06	–.34
Social acceptance	4.09	.90	.09	.06
Social contribution	4.57	.93	–.16	.93
Social actualization	4.55	.96	–.35	–.14
Social coherence	4.60	.81	.06	.30
Overall Social well-being	4.55	.67	–.02	–.11

xpositive correlations between the three factors. Wisdom as future uncertainty management resulted to be significantly correlated with wisdom as post-formal thinking only (see Table 2).

– *Correlations between the dimensions of wisdom and the dimensions of Social well-being.* The Pearson's correlation matrix has shown that wisdom defined as Pragmatic knowledge is positively correlated with Social integration, Social contribution, Social coherence and Social well-being as a global score. Wisdom as use of Post-formal dialectical thinking is positively correlated with Social acceptance, Social contribution, Social actualization, Social coherence and Social well-being as a global score. Finally, wisdom as the management of future uncertainty does not have any significant correlation with Social well-being and its components (see Table 3).
– *Gender differences for wisdom and for Social well-being.* The multivariate analysis (MANOVA) conducted on gender as a grouping variable resulted not to be significant (p = .89) for Social well-being. The multivariate analysis

Table 2 – Correlations between the dimensions of WHITAQ

Variable	Practical wisdom	Post formal wisdom	Future uncertainty management wisdom
Practical wisdom	–		
Post-formal wisdom	.62***	–	
Future uncertainty management wisdom	.10	.17*	–

*p<.05; ***p<.001

Table 3 – Zero order correlations between Social well-being and wisdom

Variable	Wisdom as pragmatics of life	Wisdom as dialectical post-formal thinking	Wisdom as future uncertainty management
Social integration	.17*	.10	−.06
Social acceptance	.02	.15+	.03
Social contribution	.24**	.28***	.03
Social actualization	.07	.24**	.08
Social coherence	.19*	.35***	−.06
Overall Social well-being	.18*	.30***	.02

+p<.08; *p<.05; **p<.01; ***p<.001

(MANOVA) conducted on gender as grouping variable resulted as not significant for wisdom (Wilk's Lambda .97; $F_{(3,141)} = 1.247$; $p = .29$). But, subsequent ANOVA highlighted a difference approaching significance for wisdom as Future uncertainty management: $M = 2.80$; $F = 3.08$ ($F = 2.80$; $p<.09$). Scheffè post hoc test confirmed this small significance ($p<.09$).

– *Level of school education differences for wisdom and Social well-being.* A multivariate analysis (MANOVA) with school education as a grouping variable was run. In this analysis a three level model was chosen, excluding the elementary school license, due to its very small number of subjects. They were significant differences found: Wilk's Lambda = .80; $F_{(10,\ 248)} = 2.75$; $p<.01$). Subsequent ANOVAs highlighted differences on the following dimensions: overall Social well-being ($F = 2.32$; $p<.07$; $\eta = .03$); middle school: $M = 4.40$ ($SD = .75$); high school: $M = 4.47$ ($SD =. 60$); degree: $M = 4.78$ ($SD = .62$). A post hoc Tukey test highlighted significant differences between the scores of high school diploma and degree (error between .41; $df = 128.00$; $p<.05$).

  Social acceptance ($F = 3.20$; $p<.05$; $\eta = .01$): middle school: $M = 3.94$ ($SD = .94$); high school: $M = 5.01$ ($SD = .89$); degree: $M = 5.14$ ($SD = .87$). A post hoc Tukey test highlighted significant differences between the scores of middle school diploma and degree (error between = .81; $df = 128.$; $p<.05$).

  Social coherence ($F = 10.80$; $p<.001$; $\eta = .10$): middle school: $M = 4.25$ ($SD = .95$); high school: $M = 4.51$ ($SD = .74$); degree: $M = 5.07$ ($SD = .63$). A Tukey test highlighted significant differences between the scores of middle school diploma and high school diploma ($p<.001$); between the scores on middle school diploma and degree ($p<.001$) and between high school diploma and degree ($p<.001$).

– *Differences for school education on wisdom.* The multivariate analysis (MANOVA) conducted on school education as a grouping variable resulted not to be significant ($p = .87$) for wisdom.

– *The contribution of wisdom to the overall Social well-being. The general linear model.* In the first step, the structural variables age, gender and school education entered into the equation. Only school education and age resulted as significant, with a 6% of explained variance. After inserting the three dimensions of wisdom, school education and age retain their significance, highlighting an interaction with wisdom, while wisdom as post-formal dialectical thinking resulted as a robust significant contributor. The model fit improved significantly, with 11% of explained variance ($p<.01$) (see Table 4).

– *The contributors of Social contribution to wisdom. The general linear model.* A general linear model with Social contribution as dependent variable and wisdom dimensions for independent variables was run. In the first step age, gender, level of school education and the interaction between gender and school education entered into the equation. These variables did not show any statistical significance ($p = .55$). After inserting the dimensions of wisdom the statistical significance improved, highlighting wisdom as pragmatics of life as a significant contributor ($p<.05$) and age approaching statistical significance (see Table 5).

– *The contributors of Social coherence for wisdom. The general linear model.* A general linear model with Social coherence as dependent variable and wisdom dimensions for independent variables was run. In the first step age, gender, level of school education and the interaction between gender and school education entered into the equation. In this first step age and level of school education showed statistical significance, with 13% of explained variance. After inserting the dimensions of wisdom the statistical significance of the model improved substantially, highlighting level of school education and wisdom as dialectical post-formal thinking as significant contributors ($p<.001$), with 21% of explained variance (see Table 6).

– *The contribution of wisdom to Social actualization. The general linear model.* For Social actualization, in the first step age, gender, school education and the interaction between gender and school education entered into the model. Age and the interaction between gender and school education resulted as significant, with 6% of explained variance. After inserting the dimensions of wisdom, only wisdom as use of dialectical post-formal thinking resulted as approaching significance together with age and the interaction between gender and school education ($p<.01$) , with 9% of explained variance (see Table 7).

– *The contribution of wisdom for Social acceptance and for Social integration. The general linear model.* For the sub-component Social acceptance in the first step age, gender, school education and the interaction between gender and school education resulted as not significant ($p = .11$). After inserting the dimensions of wisdom, only wisdom as dialectical post-formal thinking resulted as approaching

Table 4 – The contributors to overall SWB. The GLM model

Variable	F	Beta	*p* level
First step			
Age	4.24	–.187	.05
Gender	.22	.04	.63
School education	3.48	.119	.05
Gender × school education	2.07	–.139	.12
			Multiple R = .32; R^2 = .10; adj. R^2 = .06; $F_{(6,123)}$ = 2.49, p<.05
Second step			
Age	4.66	–.196	.05
Gender	.07	.02	.77
School education	3.11	–.165	.05
Gender × school education	1.45	–.103	.23
Pragmatic wisdom	.35	.06	.55
Post-formal wisdom	4.03	.219	.05
Uncertainty management wisdom	.007	.007	.93
			Multiple R = .42; R^2 = .18; adj. R^2 = .11; $F_{(9, 116)}$ = 2.84; p<.01

significance (β = .278; p = .10). The explained variance resulted as negligible and the equation as not significant: multiple R = .31; R^2 = .09; adj. R^2 = .03; $F_{(9, 127)}$ = 1.51; p = .15.

For the sub-component Social integration in the first step age, gender and school education were added to the equation, resulting as not significant: multiple R = .16; R^2 = .02; adj. R^2 = .006; $F_{(3, 140)}$ = 1.30; p = .27. After inserting the dimensions of wisdom, the statistical model resulted as not significant, with no significant predictors. Multiple R = .20; R^2 = .04; adj. R^2 = .0000; p = .45.

DISCUSSION AND CONCLUSIONS

The study has deepened the role exerted by wisdom, defined as the capacity of expert navigating life (pragmatics of life), as utilization of post-formal dialectical thinking and management of future uncertainty and awareness of human finitude, on the perceived quality of the relationship between the elderly and social contexts, namely Social well-being (Keyes, 1998). Interaction between these two factors with three structural variables: age, gender and school education were also evaluated.

Table 5 – The contributors variables for Social contribution. The GLM model

Variable	F	Beta	*p* level
First step			
Age	2.98	–.131	.08
Gender	.13	–.03	.71
School education	.33	–.03	.71
Gender × school education	.49	–.05	.60
			Multiple R = .18; R^2 = .03; adj. R^2 = –.007; $F_{(6, 139)}$ = .82; *p* = .55
Second step			
Age	3.46	–.162	.06
Gender	.21	–.04	.63
School education	.45	–.04	.64
Gender × school education	.13	.05	.87
Pragmatic wisdom	5.02	.234	.05
Post-formal wisdom	1.04	.108	.30
Uncertainty management wisdom	.27	.04	.60
			Multiple R = .36; R^2 = .13; adj. R^2 = .07; $F_{(9, 129)}$ = 2.22, *p*<.05

The elderly shows a medium-high score on overall Social well-being; for its sub-components, Social integration appears as the most relevant, confirming the centrality of proximal social context for their well-being (Pozzi et al., 2014). They also perceive the desire for knowing the society, its characteristics and seem to appreciate its complexity, as highlighted by the high level of Social coherence. Perhaps this result could be in relation with the higher level of school education of this sample. They believe in giving a positive, valued contribution to the society.

Social well-being appears to be strongly influenced by the level of education, as already emerged from previous studies (MIDUS; Keyes & Shapiro, 2004; Zambianchi, 2014). Older people with greater cultural resources tend to perceive greater Social well-being. It declines in particular in the dimensions of acceptance of others, the desire for knowledge of society and awareness of its complexity and Social well-being as a global score. A society in rapid evolution and complexification such as the contemporary one requires the presence of cultural resources for its understanding and, consequently, skills for a constructive and participatory dialogue with it (Sen, 2002).

Table 6 – The contributors variables for Social coherence. The GLM model

Variable	F	Beta	*p* level
First step			
Age	5.70	–.191	.01
Gender	.14	–.03	.70
School education	9.16	–.284	.001
Gender × school education	.001	.005	.99
			Multiple R = .41; R^2 = .17; adj. R^2 = .13 $F_{(6, 140)}$ = 4.78; p<.001
Second step			
Age	4.00	–.162	.05
Gender	.08	.08	.77
School education	9.40	–.289	.001
Gender × school education	.26	.07	.77
Pragmatic wisdom	.46	.06	.49
Post-formal wisdom	8.20	.283	.01
Uncertainty management wisdom	.59	–.06	.44
			Multiple R = .51; R^2 = .26; adj. R^2 = .21; $F_{(9, 128)}$ = 5.09; p<.001

With regard to wisdom, on the other hand, the level of education was not influential, a result that has already emerged from the research of Moraitou & Efklides (2012), suggesting that wisdom is involved in cognitive processes not only anchored to cultural knowledge. However, further research with larger samples is needed to validate this explanation or not. Furthermore, the sample is strongly unbalanced on medium-high schooling; a more balanced sample, including a greater number of elderly people with low educational qualifications, could provide more rigorous indications in this regard.

The three components of wisdom appear to be positively intercorrelated, but with values not so high, identifying for this reason clear and distinct constructs.

Overall Social well-being appears to be positively correlated with two dimensions of wisdom assessed through the *WITHAQ Questionnaire*: post-formal integrated dialectical thinking and expert-pragmatic navigation of life, confirming the hypothesis H_3. No correlations have been found between Social well-being and future uncertainty management, indicating that the latter component of wisdom does not intercept the social life quality, but perhaps other

Table 7 – The contributors variables for Social actualization. The GLM model

Variable	F	Beta	*p* level
First step			
Age	4.33	–.177	.03
Gender	.81	.07	.36
School education	1.38	–.06	.25
Gender × school education	5.27	.326	.001
			Multiple R = .32; R^2 = .10; adj. R^2 = .06; $F_{(6, 136)}$ = 2.61; p<.01
Second step			
Age	3.51	–.205	.05
Gender	.76	–.08	.38
School education	.83	–.09	.43
Gender × school education	4.66	.313	.01
Pragmatic wisdom	.35	–.06	.55
Post-formal wisdom	3.47	.199	.06
Uncertainty management wisdom	.51	.06	.47
			Multiple R = .38; R^2 = .15; adj. R^2 = .09; $F_{(9, 126)}$ = 2.50, p<.01

more individual, inner psychological dimensions.

The most relevant component of wisdom in this study is represented by the capacity for dialectical thinking linked to the post-formal operations foreseen by the cognitive development model developed by the post-Piagetian school (Labouvie-Vief; & Diehl, 2000; Pasqual-Leone, 2000). It was followed by the competence in expert navigation of life, a component close to the concept of pragmatics of life proposed by Baltes (1998) within the Berlin wisdom paradigm model and close to the Aristotelian concept of Phronesis (see also Massingham, 2019). Wisdom conceived as the ability to resolve ethical-moral issues or problems is crucial when we are confronted with cultural values and models other than those of origin, or belonging, as Jarvis (2017) evidences.

The less relevant component in this study is wisdom as expert navigation of life perhaps could be a relevant indication of the lesser capacity of past experience to act as a pragmatic reference in a society with strong structural, social, economic, informational changes (digital) and characterized by new problems. On the other hand, no significant link emerged with the dimension of wisdom as management of future uncertainty and awareness of human finitude. Perhaps

this dimension expresses a more internal relationship, as an intimate and introspective psychological elaboration with potential outcomes on psychological well-being and with the emotional-affective dimension (Moraitou & Efklides, 2012; Zambianchi, 2020).

The desire for knowledge of society, its mechanisms and functioning processes, its laws and values, expressed by the Social coherence dimension, appears to be strongly connected to the ability to understand the complexity of its functioning and the important challenges it faces. The transformations that took place in the last decades of the last century and, even more so, in the two decades of the new millennium have highlighted the need to deal with systemic complexity, the ability to identify integrative solutions to problems. Wisdom as a mature intelligence (Labouvie-Vief & Diehl, 2000) capable of reorganizing the dilemmas that cross contemporary culture (e.g. the environment; the multi-culturality of societies) in a qualitative superior synthesis could represent a fundamental resource precisely because of its ability to identify points of connection between visions and reality models proposed as antinomic in the Aristotelian formal logic. This small sample of old people permits us to propose only a mere speculation and suggestion about this connection of wisdom to the complexity of post-modern society, but, as Maxwell (2019) claims, it could be of potential interest, suggesting the deepening of this connection in future research.

Indeed, complex issues, the presence of ethical dilemmas, strong cultural and value implications in problems require the presence of post-formal dialectical thought. It resulted better able to grasp the relationships that are underlying the phenomena and go beyond simple solutions based on the elimination of one of the two horn dilemmas, seeking instead answers that integrate the major issues involved in them into an innovative synthesis or integration.

No relationship emerged between the management of uncertainty about the future and awareness of human finitude dimension and Social well-being, both global and in its sub-components. This dimension is probably more involved in other aspects of human functioning, such as the emotional experience (Moraitou & Efklides, 2012) and the temporal experience (Zambianchi, 2020). In fact, it seems to express an in-depth elaboration of the human ontological condition and not a reflection on concrete action in the world, even if it is not to be excluded (but future, broader studies on this are necessary).

For this reason, the research on wisdom as a high and mature form of intelligence and competence could provide some answers regarding which processes, strategies and paths prove to be effective for constructively confronting these societal challenges.

Limits of the study

This study has several limits that must be taken into account. The first relevant limitation is the small sample, that requires caution for the interpretation of results; broader samples are necessary for their confirmation and also for evaluating the psychometric properties of the *WITHAQ Questionnaire*. Another limit is due to the imbalance in school education; the prevalence of old people with high school education cannot disentangle the question about the influence of school education level on wisdom and also on social well-being, although a robust line of research highlights the role exerted by education on Social well-being. For the sub-components of Social well-being questionnaire, the low level of Cronbach alpha for Social coherence requests caution for drawing conclusions about its association with wisdom components.

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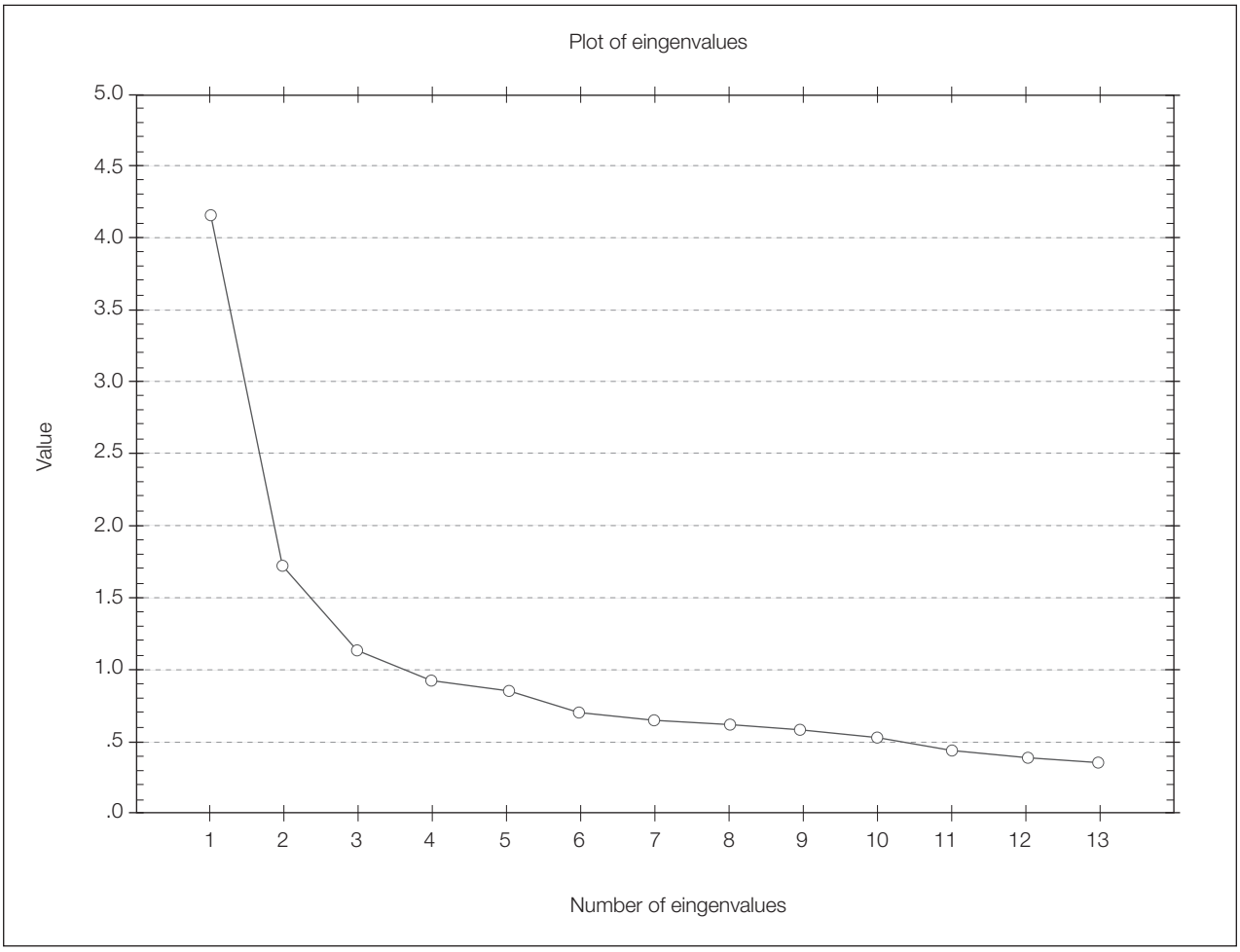
APPENDIX

A1 - Scree-test for WITHAQ Questionnaire



A2 - Factor loadings WITHAQ Questionnaire. Varimax rotation. Extraction: principal components

Item	Factor 1	Factor 2	Factor 3
PW1. Through the experience and the knowledge I have obtained so far, I have built well-formulated views and attitudes as far as important moral patterns of modern life are concerned.	.66		
PW2. Owning to my various experiences in life, I feel competent enough to handle different situations or - when asked - advise people who face similar situations.	.65		
PW3. The way I act in everyday life is not only defined by what my sense, experience or heart says, but mainly by what my principles dictate to me.	.81		

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continued

Item	Factor 1	Factor 2	Factor 3
PW4. When people ask for my advice regarding a dilemma, I usually try my advice to serve, first of all, the values that rule life.	.51		
DT1. When I want to fully understand an important event that has happened to me, I usually try to look at it from different angles. That is, look at it not only from my point of view but also from the perspective of those who were involved in this event or of a third party who views event from a distance.		.66	
DT2. When I have to reach an important decision, I take into account as many aspects as possible. That is, I take into consideration what my sense, my hearth, my experience, my principles, etc. say.		.48	
DT3. When I come up across a difficult situation, I usually try to consider various factors which may have affected the formation of this situation (e.g. from luck to intentional action, from my affect to external circumstances).		.49	
DT4. I am usually open and interested in different viewpoints, because this way I can form a more complete and clear opinion about an issue.		.61	
DT5. When I hear different or opposing views on a matter or a person, I usually search for common ground that may underlie these views.		.81	
DT6. When I discuss with other people or with myself about life issue, I can usually distinguish different arguments, e.g., which are the strongest in terms of reason or the strongest from a more subjective, experiential point of view.		.72	
AU1. When I plan tomorrow's schedule, I usually think about the possibility that something happens and as a result my plans would be reversed.			.80
AU2. The saying "it changes in an hour what happens not in 7 years" is almost always true when I plan my future.			.76
AU3. I often think about death. This makes me get cold feet and on the other hand, it teaches me not to pay much attention to transient glory, wealth and the small daily problems.			.57

Legenda. PW = Pragmatic wisdom; DT = Dialectical thinking; AU = Awareness of uncertainty.

	Eigenvalue	% total	Cumulative	Cumulative
1	4.15	31.93	4.15	31.93
2	1.73	13.27	5.88	45.21
3	1.14	8.79	7.02	53.99