

SOCIAL QUALITY AS A MULTIDIMENSIONAL CONSTRUCT FOR ACTIVE AGEING: EVIDENCE FROM STRUCTURAL EQUATION MODELING

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Abstract. Active Ageing policies in Europe often focus on elderly’s productivity, overlooking broader structural and relational factors. To address this gap, we propose Social Quality (SQ) as a theoretical and methodological framework encompassing four dimensions: Social Empowerment, Social Cohesion, Social Inclusion, and Socioeconomic Security. Using Structural Equation Modeling (SEM) on data from the Italian ISTAT “Aspects of Daily Life” survey (2022), we validated a new SQ measure in a sample of adults aged 55–74. Results show robust links between SQ and subjective well-being, highlighting the importance of network resources and institutional support for older individuals’ participation and overall quality of life.

1. Introduction

Increasing life expectancy now poses significant policy challenges at both national and European levels, and the “Active Ageing” (AA) paradigm has been a dominant response (Foster and Walker, 2015). However, in the European context, this model has increasingly shifted toward older adults’ productivity and individual responsibility, potentially overlooking the multidimensional nature of aging (Moulaert and Paris, 2013; Paliotta, 2022). Indeed, not everyone possesses the necessary material, relational, or health-related resources to remain continuously active in the labor market or in caregiving roles (Xu *et al.*, 2020).

This critical perspective has prompted calls for policies that, while safeguarding financial sustainability, also consider structural diversity and emphasize both collective and individual well-being (Walker, 2011).

This study adopts Social Quality (SQ) as a theoretical and methodological framework to move beyond the productivity-focused vision of Active Ageing, proposing a broader perspective that integrates well-being, equity, and participation.

Despite its conceptual development, SQ has rarely been applied empirically to ageing. To our knowledge, this is the first attempt to operationalize the framework using Italian microdata. Based on 12,000 individuals aged 55–74 from the 2022 ISTAT “Aspects of Daily Life” survey, we estimated a second-order SEM model with four latent domains: Empowerment, Cohesion, Inclusion, and Socioeconomic

Security. We then investigated how Social Quality relates to individual well-being, operationalized through self-reported satisfaction with life and health.

Adopting an exploratory perspective, this study addresses two guiding questions: to what extent is Social Quality associated with life and health satisfaction among Italian adults aged 55-74? And how is Social Quality distributed across age, gender, and geography? We expect a positive association with subjective well-being, and systematic disadvantages in Social Quality across age groups, geographic areas, and gender.

The findings show that older age and living in Southern Italy correlate with lower SQ scores, particularly in socioeconomic security and empowerment, while gender differences are more nuanced: women show higher averages in cohesion yet report fewer social and economic resources. Overall, our results confirm a robust positive link between SQ and subjective well-being, suggesting that wherever older people benefit from stronger resource networks and institutional support, they report higher satisfaction in terms of health and life.

The results of this study validate a new SQ measure – replicable at both national and European levels – and emphasize the role of complex systems of relationships and resources in shaping later-life outcomes. We therefore call for SQ-based strategies to complement Active Ageing agendas with more context-sensitive and equitable interventions.

2. Background

Active Ageing, in its productive variant, has increasingly been used as a governance tool to reduce pension dependency and promote older adults' economic contributions (Moulaert and Paris, 2013; Foster and Walker, 2015; Paliotta, 2022). While this may respond to demographic pressures, it presents important theoretical and policy limitations. Prioritizing productivity tends to obscure the multidimensional nature of ageing, neglecting emotional, relational, and subjective dimensions central to later-life well-being (Xu *et al.*, 2020).

Moreover, by promoting a uniform model of individual responsibility (Rozanova, 2010) the dominant framing of Active Ageing gives rise to prescriptive policies that assume equal access to enabling resources – such as health, education, or income. This overlooks both structural inequalities and the diversity of ageing trajectories. Positive ageing in later life depends not on the quantity of codified activities, but on the alignment between participatory practices and the resources individuals are able to mobilize (Ramia and Voicu, 2022). By neglecting this alignment, the dominant paradigm of AA risks reproducing exclusion and weakening welfare systems' ability to guarantee inclusion, justice, and a dignified old age (Pfaller and Schweda, 2019).

A key institutional expression of this productivist shift within the European paradigm is the Active Ageing Index (AAI), promoted by UNECE and the European Commission in 2012 to monitor and compare how countries support Active Ageing (Zaidi *et al.*, 2013). The index primarily reflects economic and productivity-related aspects – particularly employment and volunteering – while underrepresenting fundamental dimensions such as social security and subjective well-being. Its fixed and imbalanced weighting structure tends to overlook individual diversity and contextual specificities (De São José *et al.*, 2017; Zannella *et al.*, 2021), effectively shifting the burden of responsibility onto individuals and underestimating the influence of context and opportunity structures for older adults.

These dynamics become even more evident when considering territorial and gender disparities. In Italy, regional applications of the AAI have revealed significant North–South divides linked to GDP and public service quality, highlighting how official weightings penalize regions with low employment rates among older adults (Quattrociochi *et al.*, 2021). In parallel, Zannella *et al.* (2021) have shown that AAI scores diverge substantially by gender. At the European level, cluster analyses by Przybysz and Stanimir (2023) demonstrate how national contexts produce heterogeneous ageing profiles, reinforcing the need to recalibrate the AAI's official weightings to better reflect territorial and demographic diversity.

Recognizing that ageing should encompass security, relationality, and personal development, we propose Social Quality as a broader and more inclusive framework. SQ emphasizes the individual's capacity to participate meaningfully in community life under conditions that promote well-being (Walker, 2011), viewing ageing as a comprehensive experience of citizenship shaped by social and institutional contexts (Lin and Herrmann, 2022). This perspective is grounded in four conditional factors: (1) Socioeconomic Security, ensuring access to essential resources and protection from deprivation; (2) Social Cohesion, capturing trust and the strength of social bonds; (3) Social Inclusion, reflecting equal access to civic, political, and cultural rights; and (4) Social Empowerment, fostering autonomy and the capacity to influence decisions (Van de Maesen and Walker, 2005).

As George (2010) and Ryff (2014) emphasize, well-being in later life depends not merely on the presence of activity, but on the individual's capacity to exercise control, maintain meaningful relationships, and pursue personally relevant goals. Participation, therefore, contributes to well-being only when it aligns with one's values and circumstances. Only when older people enjoy real freedom of choice – supported by adequate health, financial security, and social connections – can engagement in social or economic activities foster subjective well-being and continuity of identity (Cerase, 2024; Ramia and Voicu, 2022).

The SQ framework is operationalized through 95 indicators across 18 domains (Van de Maesen and Walker, 2005), from which this study derives its empirical

measures. By integrating these dimensions into a functional-structural approach, the Social Quality framework expands the concept of Active Ageing beyond productivity metrics, adopting an enabling perspective that emphasizes the structural conditions sustaining diverse forms of participation and well-being in later life.

3. Data, Method and Results

3.1. Data

The study uses data from the 2022 edition of ISTAT's "Aspects of Daily Life"(AVQ) survey, part of the Multipurpose Household Surveys system. It gathers information on education, work, health, relationships, participation, and service use, offering a broad view of socioeconomic conditions and perceived well-being. We extracted a subsample of about 12,000 individuals aged 55–74, consistent with the age range used by the Active Ageing Index to assess employment and participation. The sampling design, covering municipalities of all sizes, ensures national representativeness and accounts for key sociodemographic and territorial differences.

3.2. Method

To empirically operationalize the multidimensional construct of Social Quality, we employed Structural Equation Modeling (SEM) – a robust statistical framework suited for testing complex relationships between latent variables and observed indicators in the social sciences. SEM is particularly appropriate for capturing abstract constructs such as SQ, which are not directly observable but emerge from consistent patterns across multiple items (Byrne, 2016).

This study adopted a reflective measurement approach, in which latent variables are conceptualized as the underlying source of variation in observed measures. Factor loadings, standardized for comparability, quantify the strength of this relationship (Kline, 2016; Brown, 2015).

Social Quality was specified as a second-order latent construct composed of four first-order dimensions: Social Empowerment, Social Cohesion, Social Inclusion, and Socioeconomic Security. These dimensions were measured using ordinal-response items from the AVQ survey.

Given the nature of the data, we employed the DWLS estimator, which uses polychoric correlations and minimizes bias in non-normal distributions (Rhemtulla *et al.*, 2012).

A stepwise estimation strategy was adopted: first-order factors were validated through individual CFA models and then integrated into a hierarchical SEM specifying Social Quality as a second-order latent construct. Two outcome variables – life satisfaction and health satisfaction – were added to the second-order SEM to

assess predictive validity, confirming SQ's relevance as a multidimensional predictor of well-being in later life (George, 2010; Ryff, 2014).

Table 1 details the observed variables used to estimate the first-order factors.

Table 1 – *The observed variables used to estimate the first-order factors.*

First Order Factor	Observed Variables
Social Inclusion	Perceived freedom of expression
	Perceived freedom of political group activity
	Perceived freedom of action for civic organizations
	Perceived equality of rights regardless of personal orientation
	Perceived gender equality in rights
	Perceived freedom to practice one's religion
	Perceived fairness of the judicial system
Social Cohesion	Having friends to rely on in times of need
	Frequency to meet friends
	Satisfaction with friendships
	Satisfaction with family relationships
	Satisfaction with leisure time
	Trust in strangers
Social Empowerment	General trust in others
	Frequency of going to the cinema
	Time spent using the computer
	Frequency of dining out
	Educational level attained
	Frequency of visiting monuments
	Frequency of visiting museums
	Participation in volunteer work
Participation in cultural events	
Socioeconomic Security	Participation in political/associative activities
	Perceived economic security of the household
	Satisfaction with current economic situation
	Comparison of current vs. past economic situation
	Perceived personal safety
	Satisfaction with environmental quality in area of residence

Model fit for the CFA and the SEM model was evaluated using key fit indices: CFI (Comparative Fit Index), TLI (Tucker–Lewis Index), RMSEA (Root Mean Square Error of Approximation), and SRMR (Standardized Root Mean Square Residual). In line with the literature (Hu and Bentler, 1999; Schermelleh-Engel *et al.*, 2003), model fit was considered satisfactory if CFI/TLI exceeded 0.95, RMSEA was below 0.06, and SRMR was below 0.08.

In parallel, the internal reliability of each first-order factor was assessed using ordinal alpha (Zumbo *et al.*, 2007), which employs polychoric correlations, and

Composite Reliability (CR), which accounts for factor loadings and measurement error (Raykov, 1997). We adopted a threshold of 0.70 as the minimum acceptable CR value, but following Bagozzi and Yi (1988), also accepted values between 0.60 and 0.70 for theoretically heterogeneous constructs or in the presence of non-unidimensional indicators.

To verify model stability across sociodemographic subgroups, we performed a three-level factorial invariance analysis – configural, metric and scalar (Meredith, 1993) – using $\Delta CFI < 0.010$ as the acceptance threshold (Cheung and Rensvold, 2002). Results confirmed that the structure held across age, gender and geographic macro-areas, legitimizing latent-mean comparisons. Because the study is descriptive/exploratory and includes only five fixed macro-regions – not enough to support reliable estimation of level 2 variance (McNeish and Stapleton, 2016) – we retained a single-level multi-group SEM instead of a multilevel alternative, which would have added complexity without clear analytical benefit.

Once the second-order model was validated, individual factor scores were extracted with the regression method (Brown, 2015). Weighted by loadings and measurement error, these scores surpass simple averages for descriptive and subgroup analyses; we rescaled them to 0–100 to facilitate interpretation and used them to profile Social Quality and its four domains among older Italians.

3.3. Results

The CFA models for the four first-order factors – Social Empowerment, Social Cohesion, Social Inclusion, and Socioeconomic Security – showed high CFI and acceptable RMSEA and SRMR values (Hu and Bentler, 1999; Schermelleh-Engel *et al.*, 2003). As shown in Table 2, each domain displayed adequate internal consistency, supporting the validity of items grouping (Brown, 2016). Although some constructs had CR values slightly below 0.70, the strength of the CFA models and their theoretical foundation justified inclusion (Bagozzi and Yi, 1988).

Table 2 – Fit indices and internal consistency for each domain.

First Order Factor	CFI	TLI	RMSEA	SRMR	CR	Ordinal Alpha
Social Empowerment	0.994	0.991	0.032	0.041	0.851	0.854
Social Cohesion	0.988	0.975	0.044	0.042	0.645	0.684
Social Inclusion	0.998	0.998	0.043	0.026	0.952	0.951
Socioeconomic Security	0.99	0.976	0.043	0.029	0.623	0.639

Subsequently the second-order SEM model confirmed the robustness of Social Quality (SQ) as a multidimensional construct. Indeed, the inclusion of four first-order factors in a second-order SQ model maintained excellent fit indices. CFI was 0.97 and TLI was 0.967, while RMSEA (0.045) and SRMR (0.066) were within the

commonly accepted thresholds (Hu and Bentler, 1999; Schermelleh-Engel *et al.*, 2003).

Structurally, the factor loadings of the four primary domains were all significant ($p < 0.001$) and of acceptable magnitude, ranging from 0.34 (Social Cohesion) to 0.80 (Social Inclusion). This suggests that, although each domain plays a specific role, they synergistically contribute to the formation of a general factor (Byrne, 2016). Moreover, residual correlations and items thresholds indicate that response categories were sufficiently distinct, ensuring adequate discriminant power in measuring Social Quality and its constituent dimensions (Kline, 2011).

The analysis of outcome variables – health satisfaction and life satisfaction—revealed standardized positive and consistent effects ($\beta = 0.583$ and $\beta = 0.562$, respectively), highlighting the enabling role of Social Quality in fostering ageing processes characterized by participation and individual well-being (George, 2010; Ryff, 2014).

Figure 1 displays a clear monotonic empirical relationship between Social Quality and both life and health satisfaction. As SQ increases, the share of respondents reporting high satisfaction rises sharply, while low-satisfaction categories progressively disappear. Notably, for life satisfaction, the top score “5” jumps from $\approx 5\%$ in the bottom decile to $>60\%$ in the top; health satisfaction shows a similarly steep climb. Even modest SQ improvements in mid-range (5-6) groups already yield significant well-being gains.

This study also offers a key comparative contribution through the analysis of factor scores derived from the second-order SQ model, enabling meaningful comparisons of average Social Quality levels across age groups, gender, and geographical areas.

Figure 2 shows how age particularly affects three dimensions: empowerment, socioeconomic security, and social inclusion tend to decline with increasing age. The impact of ageing becomes especially evident in these areas, suggesting a progressive erosion of the structural conditions that sustain meaningful participation in later life. Social cohesion, by contrast, appears to remain more resilient – showing limited decline across age groups and regions. An exception is observed among men aged 65-75 in Southern Italy, who report notably lower scores. Gender reveals a mixed pattern: women report higher scores than men in social cohesion but are less advantaged in terms of socioeconomic security and access to social and cultural resources (empowerment) – domains in which men tend to score higher. Moreover, social inclusion appears to decline with age, except among women in the Islands, where younger cohorts report even lower scores than older ones – an inversion that may point to territory - or generation-specific disadvantages.

Territorial inequalities are also evident highlighting a persistent North-South divide to the disadvantage of Southern Italy (especially the Islands).

Figure 1 – Life and Health Satisfaction Across Social Quality Deciles.

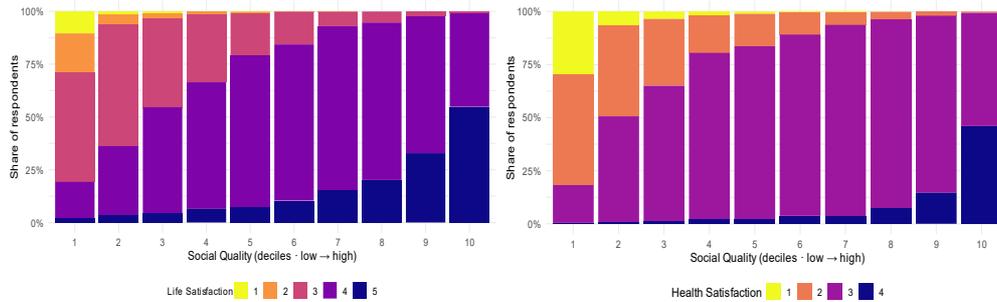
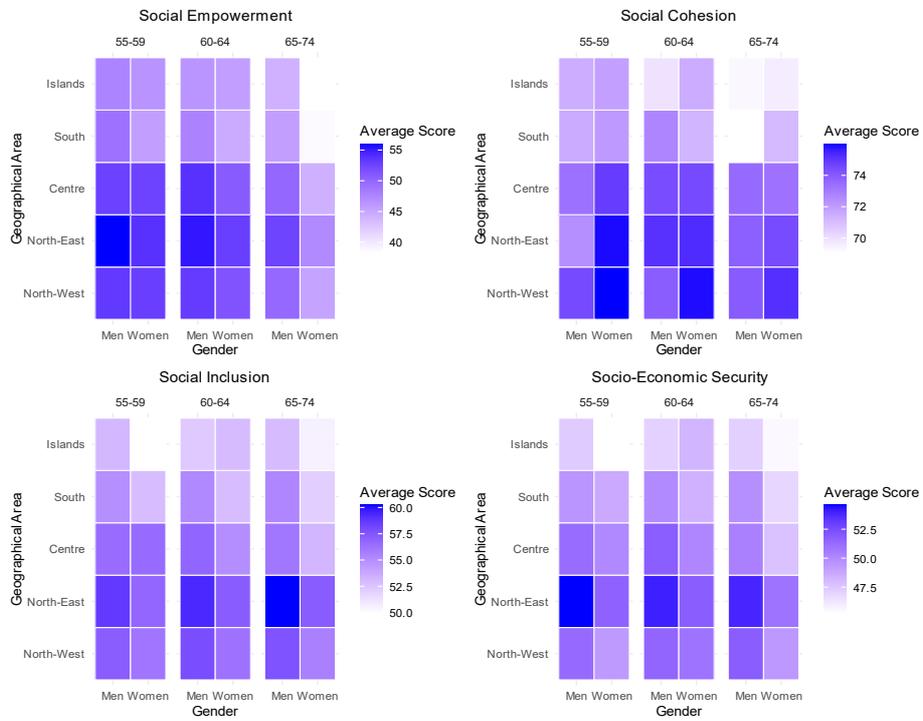


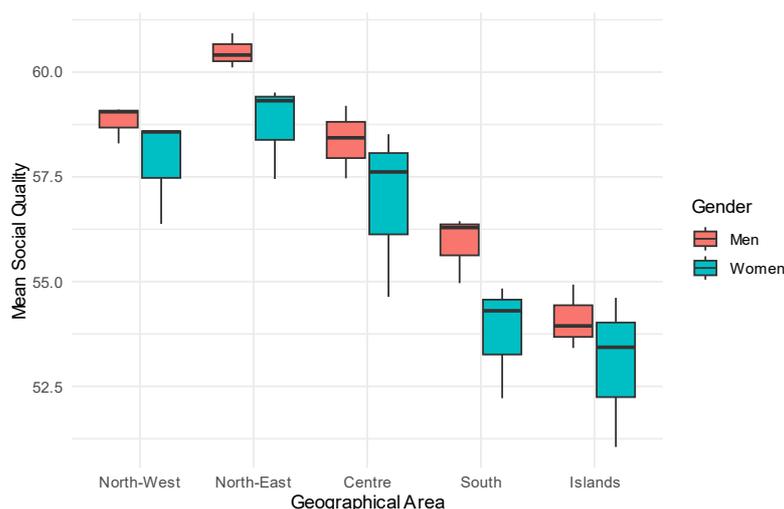
Figure 2 – Average Scores by Age, Gender and Geographical Area.



Finally, Figure 3 confirms a consistent gender gap across all geographical areas, with women scoring on average 1-2 percentage points lower than men in overall Social Quality scores, and with distributions systematically shifted downward. Additionally, total SQ score also declines steadily from the North-East to the Islands,

with the Southern regions averaging about 5 percentage points below the Northern ones.

Figure 3 – *Social Quality by Geographical Area and Gender.*



4. Conclusion

This study contributes to redefining the concept of “good ageing” shifting the focus from a narrow, productivity-driven model to a broader perspective centered on full citizenship, self-realization, and well-being.

Unlike the Active Ageing Index (AAI), which assigns fixed weights to its four domains based on expert judgment, our Social Quality approach is grounded in a latent structure empirically validated through Structural Equation Modeling. This enables a data-driven weighting scheme that reflects the actual interrelations among indicators. By focusing on structural interdependencies rather than direct measures of participation, the model redirects attention to the conditions that enable or hinder individual agency. Moreover, while the AAI draws on aggregated and objective data our approach is based on micro-level individual data, allowing for a more granular understanding of inequalities. Finally, by employing newly introduced indicators on social cohesion (available from 2021 in the AVQ survey), the model captures recent changes in the social fabric and reflects emerging contextual dynamics.

A key limitation of this study concerns the exclusion of indicators related to essential services – such as healthcare – due to the high proportion of missing data in the relevant subsample of the AVQ survey. While these dimensions are included

in the dataset and conceptually embedded in the Social Quality framework, their limited empirical reliability prevented their integration into the model. Moreover, the cross-sectional nature of the analysis constrains our capacity to determine causal directions or observe temporal dynamics. Future research will overcome these limitations by drawing on longitudinal and more complete datasets (e.g., the European Social Survey), thus enabling a more robust and comparative validation of the Social Quality model across both national contexts and time periods.

In practical terms, a Social Quality indicator system could be adopted by national and local governments to monitor territorial disparities and guide the planning of age-friendly policies – for instance, by targeting areas with low empowerment scores with investments in cultural infrastructure or community-based programs for older adults.

In conclusion, while demographic pressures increasingly call for the prolonged participation of older adults, this imperative cannot ignore questions of social justice and individual well-being. Moreover, measuring the extent of participation alone does not ensure that people are genuinely empowered to remain active. Integrating the productivity-oriented logic of the Active Ageing Index with the Social Quality approach means shifting the focus to the conditions that make such participation truly possible. A combined dashboard could thus help assess not only whether older people are participating, but under what circumstances – and to what extent this reflects autonomy, inclusion, and fairness.

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