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Research Article

Study on the Effect of Social Cohesion on Individual Well-Being in Senegal

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Abstract

Introduction: Social cohesion, a key pillar of sustainable development and social harmony, is increasingly recognized for its impact on population well-being. In Senegal, where poverty, inequality, and structural vulnerabilities persist, analyzing social cohesion provides insight into potential drivers for improving individual well-being. This study assessed the effect of social cohesion on subjective well-being among the Senegalese population. Methodology: A descriptive and analytical cross-sectional household survey was conducted from July 23 to August 9, 2023. Six individuals per household, aged five years and above, were randomly selected, producing a nationally representative sample. Social cohesion was measured through trust, solidarity, civic participation, and social inclusion, while well-being was assessed using subjective indicators such as mood, energy, calmness, and life satisfaction. Results: Findings showed that 35.5% of respondents reported feeling energetic most of the time, 35.4% felt calm and peaceful, and 34.6% reported good mood and overall well-being. Marked disparities emerged by age, gender, location, education, and poverty status, with lower well-being levels in rural, poorer, and less-educated groups. Higher social cohesion was consistently associated with greater well-being. Conclusion: These results underscore the role of social cohesion as a determinant of individual well-being in Senegal. Public policies should integrate solidarity, inclusion, and civic participation into poverty reduction strategies and initiatives to strengthen mental and social health.

Keywords

Social Cohesion, Well-Being, Social Factors, Inequalities, Senegal

1. Introduction

Social cohesion refers to a society's ability to ensure the well‑being of all its members, notably through equitable access to resources, respect for dignity amid diversity, individual and collective autonomy, and responsible participation [1]. The term "social cohesion" was first introduced in 1893 by the sociologist Émile Durkheim (1858–1917) in his work" The Division of Labour in Society" [2], where he defined it as the quality of a well‑functioning society characterized by solidarity among its members and a strong collective conscience. Overall, it requires strengthening social bonds across the entire population, with particular attention to the social inclusion of vulnerable groups. [1, 3, 4].

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In November 2023, the World Health Organization (WHO) announced the establishment of a Commission on Social Connection to address loneliness as an urgent health threat and to prioritize the promotion of social ties. This initiative also aims to accelerate the implementation of solutions worldwide, irrespective of countries' income levels. Social isolation, characterized by an insufficient number of social relationships, and loneliness, defined as the distress resulting from a perceived lack of connection with others, are highly prevalent worldwide [5]. Contrary to the belief that these issues primarily affect older adults in high-income countries, they impact health and well-being in all age groups and regions with one in four older adults experiences social isolation, with similar prevalence across geographic areas. The WHO emphasizes that high rates of social isolation and loneliness have serious consequences for health and well-being. Individuals lacking adequate social connections face an increased risk of stroke, anxiety, dementia, depression, suicide, and other conditions. The absence of strong social ties is associated with a risk of premature mortality comparable to, or exceeding, that of better-known risk factors such as smoking, alcohol misuse, physical inactivity, obesity, and air pollution. Moreover, studies indicate that social isolation, which is linked to anxiety and depression, raises the risk of cardiovascular disease by approximately 30%. The WHO's new Commission is mandated to develop a global social connection agenda by raising awareness and fostering collaborations to design evidence-based solutions for countries, communities, and individuals. This initiative is particularly timely given the social and economic disruptions caused by the COVID-19 pandemic, which have eroded social bonds. Such breakdowns in social relationships can also adversely affect education, students experiencing loneliness are at greater risk of dropping out of higher education, and can undermine economic performance, as feelings of isolation and lack of support at work may lead to reduced job satisfaction and productivity [6, 7]. According to the European Commission, participation in cultural life also enhances health and well-being, making access to culture a key determinant of psychological well-being [8].

Senegal, internationally recognized for its political stability, stands out as one of the few countries in Africa and particularly in West Africa that has never experienced a coup d'état. This exemplary stability stems from the sustained commitment of its authorities to implement a range of conflict-prevention and management mechanisms at the international, continental, regional, and national levels, thereby fostering peace and social cohesion. The country is also distinguished by its dedication to promoting inclusive dialogue forums on matters of public interest, strengthening social, economic, and political consultation frameworks. Moreover, Senegal serves as a model of peaceful religious coexistence in Africa, with women and youth, particularly through civil-society organizations, playing an active role in conflict prevention and peacebuilding. The involvement of women in peace and security aligns with United Nations Security Council Resolution 1325 [9]. Finally, whereas the evolution of traditional media can be relatively easily quantified, the expansion of social media is both rapid and more difficult to measure, driven by accelerating technology and the growing accessibility of the internet, especially among young people [10].

The Sustainable Development Goals 3 (SDG3) aims to ensure healthy lives and promote well-being for all at all ages. Indeed, population health constitutes a fundamental pillar for robust economies and sustainable development. Consequently, it is essential to safeguard vulnerable groups and individuals residing in regions with particularly high disease prevalence [11].

This study aims to assess the effect of social cohesion on well-being within the Senegalese population.

2. Methodology

2.1. Study Setting

This study was conducted in Senegal. As of 2022, its population was estimated at 17,738,795 inhabitants (90 inhabitants/km²). For census purposes and to ensure population representativeness, the country is divided into four eco-geographical zones. These are (i) *West:* comprising the regions of Dakar and Thiès, (ii) *Center:* including the regions of Diourbel, Fatick, Kaolack, and Kaffrine, (iii) *North:* made up of the regions of Matam, Louga, and Saint Louis, (iv) *South:* covering the regions of Tambacounda, Kolda, Kédougou, Sédhiou, and Ziguinchor [12].

According to the survey conducted by the National Agency for Statistics and Demography (ANSD), the female population (50.22%) slightly exceeds the male population (49.78%). Senegal is the first African country to carry out these surveys continuously, enabling the determination of census-district distribution and household allocation by urban (1 848) and rural (2 860) settings [13].

Senegal has 14 medical regions with 79 health districts. In terms of mental health infrastructure, the country has 17 psychiatric services. Of the 14 regions, only eight host a psychiatric service, and their distribution is unequal: 46.15% of these facilities are concentrated in Dakar (Figure 1) [14].

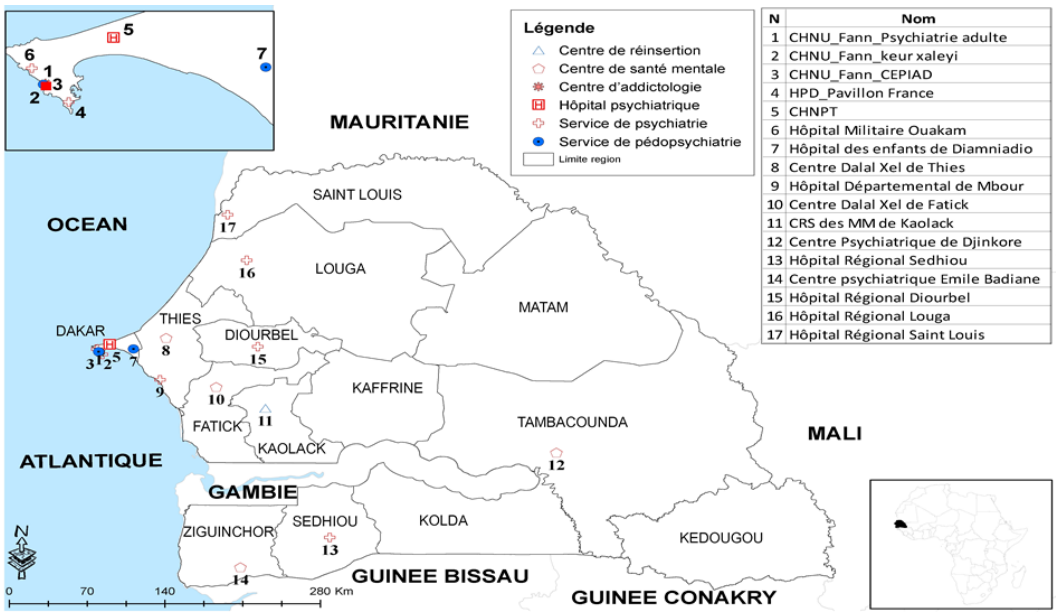

Figure 1. Map of mental health care facilities in Senegal (Source: Mental Health Division, Ministry of Health and Social Action, Senegal, 2022).

2.2. Study Design and Period

A nationwide descriptive and analytical cross‑sectional household survey was carried out from 23 July to 9 August 2023.

2.3. Study Population

2.3.1. Inclusion Criteria

In each household, six individuals aged ≥5 years were randomly selected from all eligible household members.

2.3.2. Exclusion Criteria

Individuals aged ≥5 years who were absent or ill during the data collection period, or who withheld consent, were excluded from the study.

2.4. Sample Size

The sample size was calculated using Schwartz's formula, resulting in a total of 2,174 individuals aged 5 years and older. This calculation was performed with the "EpiTable" module of Epi Info version 6. The sample was then allocated proportionally by number of individuals per Census District, and subsequently by household.

Sampling frame

The database of the National Agency for Statistics and Demography served as the sampling frame.

Selection of subjects within a household

The selection of survey participants within each household followed the Demographic and Health Surveys (DHS) sampling framework. First, the number of urban and rural areas to be surveyed was computed automatically with region‑specific adjustments. Individuals were then allocated proportionally across the 14 regions, ensuring one child aged 5–14 years per household. Next, specific urban and rural enumeration areas were chosen via systematic random sampling from the sampling frame, which listed all communes (urban) and rural communities in each region. On the ground, households were identified using the classic "pen‑spin" method: a pen was spun in front of the household head's residence to determine the initial direction, and a fixed sampling interval was applied to select successive concessions. Within each selected concession, a random draw was used to choose one household. Finally, all household members aged 5 years and older who met the inclusion criteria and had provided informed consent were interviewed.

2.5. Data Collection

2.5.1. Data Collection Tools

Data were collected using a pre‑coded questionnaire developed by a panel of Senegalese experts on mental health for individuals aged 5 years and older, based on WHO guidelines and the scientific literature. The finalized questionnaire was uploaded into the ODK Collect (Open Data Kit) application on a tablet and synchronized in real time with a secure server via the internet. This system enabled immediate electronic capture of responses, reducing both database preparation time and data entry errors. To ensure data quality, the application included built‑in checks such as permissible value ranges and conditional filters. After each interview, the supervisor reviewed the completed questionnaire to verify consistency and

reliability of the responses.

2.5.2. Data Collection Method

Questionnaires were completed through individual face-to-face interviews. For children and adolescents, parental consent was required. Four supervisors and twelve interviewers, organized into teams of one supervisor and three interviewers each, underwent training to strengthen their expertise in mental health assessment for individuals aged 5 years and older, as well as to update their knowledge of study methodology, questionnaire administration, and ethical considerations. A pilot phase was conducted, and adjustments were made based on feedback from interviewers and supervisors. Prior to fieldwork, an official letter was sent to administrative and health authorities. During data collection, the field teams were supported by community liaisons to facilitate participation and adherence to local protocols.

2.5.3. Data Recorded

Data were entered in real time in the field using the Android version of the ODK application on tablets, with simultaneous storage on a memory card and secure transmission to a server. This system enabled daily monitoring of data quality as questionnaires were validated.

Quality control was conducted at two levels: (i) At the end of each day, a debriefing meeting was held to identify and address any challenges encountered and (ii) Prior to synchronization, the team leader verified the completeness of each questionnaire; any incomplete forms were returned to the interviewer for correction.

2.5.4. Operational Definitions of Variables

1) *Sociocultural Cohesion*: Existence of social ties with community groups, mutual trust and solidarity among community members; treatment of all members with dignity and mutual tolerance; and the community's capacity to manage social problems peacefully.
2) *Economic Cohesion*: Presence of satisfactory living conditions within the family; equitable distribution of resources and mutual assistance within the community.
3) *Political Cohesion*: Active participation in resolving community issues within a climate of trust toward public institutions and structures; and the existence of state mechanisms aimed at reducing inequalities.
4) *Well-Being*: Feeling good and in a positive mood; feeling calm and relaxed; experiencing high energy and vitality; waking up feeling refreshed and ready for the day; and perceiving one's daily life as filled with interesting activities.

2.6. Data Analysis

Data cleaning was performed prior to analysis using Excel version 2016. Statistical analyses were conducted with R version 4.3.3. Quantitative variables are presented as counts, means with standard deviations, medians, and ranges; qualitative variables are expressed as counts (absolute frequencies) and percentages (relative frequencies) with 95% confidence intervals. To assess the association between the different dimensions of cohesion and household characteristics, Pearson's chi-square test was applied with a significance threshold of 5%. To evaluate the effect of the various cohesion dimensions on well-being, propensity score matching was performed using nearest-neighbor matching.

2.7. Ethical Considerations

The study protocol was approved by the Senegalese National Ethics Committee for Health Research (CNERS). An information letter, countersigned by the Office of the Ministry of Health, was issued to all institutions involved in the survey. Free, informed, and voluntary consent was obtained from all adult participants. For minors, both assent and parental or guardian consent were secured. Senegal's regulations on the collection of personal data were strictly adhered to. Confidential data were securely stored and used exclusively for scientific purposes. No financial compensation or incentives were provided to participants.

3. Results

3.1. Description of the Different Dimensions of Social Cohesion

In the sociocultural dimension, 48.9% of households fully agreed that they maintained strong social ties with diverse community groups; 50.02% believed that mutual trust prevailed regardless of identity differences; 54% felt that everyone was treated with dignity; 52.5% reported mutual acceptance and tolerance among different identity groups; 50.1% agreed that there were formal and informal opportunities for inter-group interaction; and 54.2% stated that their community was capable of peacefully managing social problems. The highest sociocultural cohesion score was observed for the "Agree" category (306.2).

For the economic dimension, the same items were assessed: 48.9% of households affirmed strong social ties with diverse groups; 50.2% trusted others despite differences; 54% reported dignified treatment for all; 52.5% indicated mutual tolerance between groups; 50.1% acknowledged opportunities for formal and informal interaction; and 54.2% noted their community's ability to resolve conflicts peacefully. The highest economic cohesion score, also for "Agree", was 257.5.

In the political dimension, 47.9% of households agreed to actively participate in community initiatives; 37.3% felt public authorities treated all citizens fairly; 52.3% shared common civic values regardless of identity group; 48.8% believed

they could engage in political processes without fear; 34.2% felt heard by governmental institutions; and 33.3% trusted public institutions at both national and local levels. The highest political cohesion score for the "Agree" category was 253.8.

Overall, the global social cohesion score peaked in the "Agree" category at 817.5, comprised of 306.2 for sociocultural cohesion, 257.5 for economic cohesion, and 253.8 for political cohesion (Table 1).

3.2. Description of the Different Components of Well-Being in Senegal

The response category "most of the time" yielded the highest scores across all evaluated items: feeling "good and in a positive mood" (34.6%); feeling "calm and peaceful" (35.4%); feeling "full of energy and vigorous" (35.5%); waking up "feeling fresh and rested" (35.4%); and experiencing "a daily life filled with interesting things" (36.1%). The highest overall well-being score (177) was likewise associated with the "most of the time" category (Table 2).

3.3. Description of Household Sociodemographic Characteristics

The analysis of household sociodemographic characteristics showed that 52.58% of participants resided in rural areas; 80.91% were male; 53.22% were aged between 23 and 64 years; 89.79% were married; 53.36% had no formal education; 94.39% did not hold an administrative occupation; 86.75% lived in households of at least nine members; 57.54% lived with at least one person suffering from a chronic illness; 70.61% lacked health insurance coverage; 80.73% belonged to households earning less than 300 000 West African CFA franc; and 93.88% lived in households classified as poor (Table 3).

3.4. Dichotomous Description of Social Cohesion and Well-Being in Senegal, 2023

In our study, 73.14% of participants did not agree that sociocultural cohesion was present, 74.79% did not agree that economic cohesion was present, 77.41% did not agree that political cohesion was present, and 81.55% did not recognize the existence of social cohesion. Regarding well-being, 55.52% reported not being in a state of well-being (Table 4).

3.5. Analysis of the Different Dimensions of Cohesion by Household Sociodemographic Characteristics

In our study, the proportion of individuals in favor of *sociocultural cohesion* was 29.13% in rural areas versus 24.34% in urban areas (p = 0.012); 22.89% among women versus 27.80% among men (p = 0.042); 23.77% in the 23–63 years age group versus 30.38% in the 64 years and more year age group (p < 0.001); 25.18% in households with at least one sick person versus 29.14% in households without (p = 0.039); and 27.39% in poor households versus 18.79% in wealthy households (p = 0.030) (Table 5).

For *economic cohesion*, 23.25% of participants aged 23-63 years and 27.43% of those aged 64 years and more were in favor (p = 0.025); 25.72% of poor households and 17.29% of wealthy households endorsed it (p = 0.030) (Table 6).

Analysis of *political cohesion* showed that 18.55% of women and 23.53% of men were in favor (p = 0.029); 20.48% of those aged 23-63 years and 24.97% of those aged 64 years and more endorsed it (p = 0.012); 13.93% of participants in administrative professions versus 23.10% in non-administrative professions (p = 0.019); and 26.76% of those with health insurance versus 20.84% of those without (p = 0.003) (Table 7).

Overall *social cohesion* was supported by 20.73% of rural participants versus 15.90% of urban participants (p = 0.004); 13.73% of women versus 19.55% of men (p = 0.006); 16.76% of those aged 23-63 years versus 20.35% of those aged 64 years and more (p = 0.031); and 21.28% of insured participants versus 17.26% of uninsured participants (p = 0.028) (Table 8).

3.6. Measurement of the Effect of Cohesion Dimensions on Well-Being

This analysis shows that 47.61% of individuals reported well-being in the presence of sociocultural cohesion versus 41.77% in its absence (p = 0.048). Individuals living in a context of sociocultural cohesion had 1.27-times higher odds of reporting well-being compared with those not experiencing sociocultural cohesion (Table 9).

4. Discussion

In a global context where social connection is recognized as a major determinant of health and quality of life [1], our analysis provides novel insights into the associations between household sociodemographic characteristics and social cohesion among Senegalese households, as well as the influence of this cohesion on individual well-being.

4.1. Social Cohesion and Its Determinants by Household Characteristics

Individuals aged ≥ 64 years exhibited significantly higher overall social cohesion (P = 0.031), including its sociocultural (P < 0.001), political (P = 0.012), and economic (P = 0.025) dimensions. Findings from Borsenberger confirm that trust increases with age: initially negative between 18 and 54 years, it becomes progressively positive up to 74 years. Younger individuals display low institutional trust, but this reverses

with age, peaking at ≥ 75 years (age explains 1.8% of the variance in trust) [15].

Solidarity follows a similar trajectory, with older adults showing greater concern for the living conditions of fellow citizens and vulnerable groups. However, beyond 75 years, this solidarity declines slightly (3.6% of variance explained). In contrast to our results, Valentova indicate that political participation and social relationships decrease with age: they are highest among the young and decline from 55–64 years onward, falling below the average thereafter. At ≥ 75 years, this decline reaches its lowest point (2.6% of variance for political participation and 7.8% for social relationships) [16].

Men exhibited a higher level of overall social cohesion (P = 0.006), particularly in the political (P = 0.029) and sociocultural (P = 0.042) dimensions. These findings are supported by the VALCOS project, which reports a slight male advantage in political participation and social relationships (explaining 1.5% and 2.9% of the variance, respectively) [17].

Our study further indicates that individuals living in poverty demonstrated stronger social cohesion, especially in the sociocultural (P = 0.030) and economic (P = 0.030) dimensions. These observations contrast which show higher cohesion in upper socioeconomic classes, with a progressive decline toward the most disadvantaged groups [18]. Engagement is markedly greater among those of higher socioeconomic status [19], particularly in social relationships, political participation, and sociocultural participation [20].

According to our findings, individuals employed in administrative roles exhibited stronger political cohesion (P = 0.019). This result is consistent with Fleury, who found that civil servants achieve the highest scores in political participation and social relationships, whereas manual workers obtain the lowest scores [19].

4.2. Impact of Social Cohesion on Individual Well-Being

The study shows that sociocultural cohesion is significantly associated with higher individual well-being in Senegal. Participants living in contexts characterized by solidarity and mutual support reported a well-being level of 47.6%, compared to 41.8% among those in less collaborative environments. The odds ratio (OR = 1.27; p = 0.048) indicates a modest yet statistically significant effect. This association suggests that trust, solidarity, and social ties within communities positively influence well-being. Such community-based organization also proved effective during the COVID-19 response, where collective support helped mitigate the psychosocial and economic impacts of the pandemic [21]. Our study thus highlights the protective role of sociocultural cohesion in contexts marked by poverty and structural vulnerabilities, and underscores its potential as a strategic lever for shaping public policies aimed at enhancing population well-being.

5. Conclusion

Our study highlights the pivotal role of sociocultural cohesion in promoting well-being among the Senegalese population. Economic and social inequalities—whether related to income, social origin, or access to services—are major determinants of the observed disparities in social cohesion and well-being worldwide. When individuals feel supported by their society, they experience greater security, enhanced life satisfaction, and improved mental health. Thus, social cohesion transcends a mere moral value or political ideal: it constitutes an essential determinant of mental health, quality of life, and the stability of contemporary societies.

5.1. What Is Known

International evidence consistently shows that strong social cohesion—encompassing trust, solidarity, and inclusion—positively influences mental health, life satisfaction, and social resilience. Conversely, poverty, limited education, and social exclusion are well-documented determinants of reduced well-being. These relationships are particularly pronounced in low-income contexts, such as many sub-Saharan African countries, where structural vulnerabilities exacerbate inequalities. Understanding the protective role of social cohesion within these settings is therefore essential for informing policies aimed at strengthening population well-being and reducing disparities.

5.2. What Our Study Adds

Our findings reveal disparities in social cohesion across demographic and socioeconomic groups in Senegal, shaped by sex, age, poverty status, residence, and household health. Individuals embedded in socioculturally cohesive contexts were significantly more likely to report higher well-being (OR = 1.27; p = 0.048). This result highlights the protective role of social cohesion in promoting individual well-being and underscores its relevance for public health and policy interventions.

Abbreviations

WHO	World Health Organization
COVID-19	Coronavirus Disease 2019
VALCOS Project	Valeurs ET Cohesion Sociale Project

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Conflicts of Interest

The authors declare no conflicts of interest.

Appendix

Table 1. Description of the different dimensions of cohesion in Senegal in 2023.

Variables	Strongly disagree (n)%, IC à 95%	Disagree (n)%, IC à 95%	Neither agree nor disagree (n)%, IC à 95%	Agree (n)%, IC à 95%	Strongly agree (n)%, IC à 95%
Sociocultural Cohesion					
S1. I have strong social ties with diverse groups in my community (N=2174)	(26) 1.2% [0.7-1.7]	(93) 4.3% [3.4-5.2]	(9) 0.4% [0.2-0.8]	(982) 45.2% [43.0-47.2]	(1064) 48.9% [46.8-51.0]
S2. Members of my community trust one another regardless of identity differences (N=2174)	(17) 0.8% [0.4-1.2]	(130) 6.0% [5.0-7.0]	(47) 2.2% [1.6-2.8]	(1091) 50.2% [48.0-52.3]	(889) 40.8% [38.8-42.9]
S3. Everyone is treated with dignity, no matter who they are (N=2174)	(35) 1.6% [1.1-2.2]	(131) 6.0% [5.0-7.1]	(58) 2.7% [2.0-3.4]	(1173) 54.0% [51.8-56.0]	(777) 35.7% [33.7-37.8]
S4. People from different identity groups accept and tolerate each other (N=2174)	(23) 1.1% [0.6-1.6]	(87) 4.0% [3.2-4.9]	(72) 3.3% [2.6-4.1]	(1141) 52.5% [50.3-54.5]	(851) 39.1% [37.0-41.2]
S5. There are formal and informal opportunities in my community for people of different identity groups to connect and interact (N=2174)	(28) 1.3% [0.8-1.8]	(106) 4.9% [4.0-5.8]	(205) 9.4% [8.2-10.7]	(1090) 50.1% [48.0-52.2]	(745) 34.3% [32.2-36.3]
S6. My community is capable of managing social problems peacefully (N=2174)	(29) 1.3% [0.9-1.9]	(76) 3.5% [2.7-4.3]	(81) 3.7% [2.9-4.6]	(1177) 54.2% [52.0-56.2]	(811) 37.3% [35.2-39.3]
Sociocultural cohesion score	7.3	28.7	21.7	306.2	236.1
Economic Cohesion					
E1. I am satisfied with my family's current living conditions compared to others in the community (N=2174)	(83) 3.8% [3.0-4.7]	(141) 6.5% [5.5-7.6]	(67) 3.1% [2.4-3.9]	(1158) 53.3% [51.1-55.3]	(725) 33.3% [31.3-35.3]
E2. People in my community help each other in times of need (N=2174)	(78) 3.6% [2.8-4.4]	(181) 8.3% [7.2-9.5]	(85) 3.9% [3.1-4.8]	(1148) 52.8% [50.6-54.9]	(682) 31.4% [29.4-33.3]
E3. Public resources are managed equitably for the benefit of all (N=2174)	(299) 13.8% [12.3-15.2]	(463) 21.3% [19.6-23.0]	(166) 7.6% [6.5-8.8]	(849) 39.1% [36.9-41.1]	(397) 18.2% [16.6-19.9]
E4. People have equal access to livelihoods and employment opportunities, regardless of who they are (N=2174)	(363) 16.7% [15.1-18.3]	(633) 29.1% [27.2-31.0]	(284) 13.1% [11.6-14.5]	(640) 29.4% [27.5-31.4]	(254) 11.7% [10.3-13.1]
E5. People enjoy equal chances to access basic quality services,	(219) 10.1%	(384) 17.7%	(150) 6.9% [5.8-8.0]	(984) 45.3%	(437) 20.0%

Variables	Strongly disagree (n)%, IC à 95%	Disagree (n)%, IC à 95%	Neither agree nor disagree (n)%, IC à 95%	Agree (n)%, IC à 95%	Strongly agree (n)%, IC à 95%
no matter who they are (N=2174)	[8.8-11.4]	[16.0-19.3]		[43.1-47.3]	[18.4-21.8]
E6. Goods and services are exchanged in a fair environment (N=2174)	(266) 12.2% [10.9-13.7]	(462) 21.3% [19.5-23.0]	(157) 7.2% [6.1-8.4]	(817) 37.6% [35.5-39.6]	(472) 21.7% [20.0-23.5]
Economic cohesion score	60.2	104.2	41.8	257.5	136.3
Political Cohesion					
P1. I actively participate in community initiatives to solve problems that affect everyone (N=2174)	(52) 2.4% [1.8-3.1]	(217) 10.0% [8.7-11.3]	(76) 3.5% [2.7-4.3]	(1042) 47.9% [45.8-50.0]	(787) 36.2% [34.1-38.2]
P2. All people in my community are treated fairly by public authorities (N=2174)	(305) 14.0% [12.6-15.5]	(556) 25.6% [23.7-27.4]	(154) 7.1% [6.0-8.2]	(810) 37.3% [35.2-39.3]	(349) 16.0% [14.5-17.6]
P3. We share the same civic values as citizens of the same country, regardless of identity group (N=2174)	(185) 8.5% [7.3-9.7]	(315) 14.5% [13.0-16.0]	(146) 6.7% [5.7-7.8]	(1136) 52.3% [50.1-54.3]	(392) 18.0% [16.4-19.7]
P4. Everyone has the opportunity to engage in political processes without fear (N=2174)	(160) 7.4% [6.3-8.5]	(217) 10.0% [8.7-11.3]	(137) 6.3% [5.3-7.4]	(1060) 48.8% [46.6-50.8]	(600) 27.6% [25.7-29.5]
P5. People's concerns and ideas are heard and taken into account by government structures and institutions (N=2174)	(355) 16.3% [14.8-17.9]	(557) 25.6% [23.8-27.5]	(298) 13.7% [12.3-15.2]	(743) 34.2% [32.1-36.2]	(221) 10.2% [8.9-11.5]
P6. People trust public institutions and government structures at both national and local levels. (N=2174)	(327) 15.0% [13.5-16.6]	(547) 25.2% [23.3-27.0]	(295) 13.6% [12.1-15.0]	(723) 33.3% [31.2-35.2]	(282) 13.0% [11.6-14.4]
Political cohesion score	63.6	110.9	50.9	253.8	121
Overall Social Cohesion Score	131.1	243.8	114.4	817.5	493.4

Table 2. Description of individual well-being in Senegal in 2023.

Variables	Modalities					
	Never (n)%, IC à 95%	Occasionally (n)%, IC à 95%	Less than half the time (n)%, IC à 95%	More than half the time (n)%, IC à 95%	Most of the time (n)%, IC à 95%	All the time (n)%, IC à 95%
1. I felt good and in a positive mood (N=2174)	(156) 7.2% [6.1-8.3]	(406) 18.7% [17.0-20.3]	(134) 6.2% [5.2-7.2]	(221) 10.2% [8.9-11.5]	(753) 34.6% [32.6-36.6]	(504) 23.1% [21.4-25.0]
2. I felt calm and peaceful (N=2174)	(189) 8.7% [7.5-9.9]	(321) 14.8% [13.3-16.3]	(132) 6.1% [5.1-7.1]	(248) 11.4% [10.1-12.8]	(769) 35.4% [33.3-37.4]	(515) 23.6% [21.9-25.5]
3. I felt full of energy and vigorous	(148) 6.8% [5.8-7.9]	(344) 15.8% [14.3-17.4]	(173) 8.0% [6.8-9.1]	(257) 11.8% [10.5-13.2]	(772) 35.5% [33.5-37.5]	(480) 22.1% [20.3-23.8]

Variables	Modalities					
	Never (n)%, IC à 95%	Occasionally (n)%, IC à 95%	Less than half the time (n)%, IC à 95%	More than half the time (n)%, IC à 95%	Most of the time (n)%, IC à 95%	All the time (n)%, IC à 95%
(N=2174)						
4. I woke up feeling fresh and rested (N=2174)	(117) 5.4% [4.4-6.4]	(337) 15.5% [14.0-17.1]	(160) 7.4% [6.3-8.5]	(340) 15.6% [14.1-17.2]	(770) 35.4% [33.4-37.4]	(450) 20.7% [19.0-22.4]
5. My daily life was filled with inter-esting things (N=2174)	(204) 9.4% [8.2-10.7]	(314) 14.4% [13.0-16.0]	(115) 5.3% [4.4-6.3]	(412) 19.0% [17.3-20.6]	(785) 36.1% [34.0-38.1]	(344) 15.8% [14.3-17.4]
Well‑being score	37.5	79.2	33	68	177	105.3

Table 3. *Description of household sociodemographic characteristics in Senegal in 2023.*

Variables (N=2174)	n (%)	IC à 95%
Geographic area		
Rural	1143 (52.58%)	[50% - 55%]
Urban	1031 (47.42%)	[45% - 50%]
Gender		
Female	415 (19.09%)	[17% - 21%]
Male	1759 (80.91%)	[79% - 83%]
Age group		
23-63 years	1157 (53.22%)	[51% - 55%]
≥64 years	1017 (46.78%)	[45% - 49%]
Marital status		
Married	1952 (89.79%)	[88% - 91%]
Unmarried	222 (10.21%)	[9.0% - 12%]
Education		
Yes (formal education)	1014 (46.64%)	[45% - 59%]
No	1160 (53.36%)	[51% - 55%]
Occupation		
Administrative*	122 (5.61%)	[4.7% - 6.7%]
Non-administrative*	2052 (94.39%)	[93% - 95%]
Household size		
≥9 persons	1886 (86.75%)	[85% - 88%]
<9 persons	288 (13.25%)	[12% - 15%]
Presence of chronic illness in household		
Yes	1251 (57.54%)	[55% - 60%]
No	923 (42.46%)	[40% - 45%]

Variables (N=2174)	n (%)	IC à 95%
Health insurance coverage		
Yes	639 (29.39%)	[27% - 31%]
No	1535 (70.61%)	[69% - 73%]
Household income		
< 300 000 West African CFA franc	1755 (80.73%)	[79% - 82%]
≥ 300 000 West African CFA franc	419 (19.27%)	[18% - 21%]
Economic status		
Poor	2041 (93.88%)	[93% - 95%]
Wealthy	133 (6.12%)	[5.2% - 7.2%]

* Administrative = teacher and administrator
* Non‑administrative = worker, farmer, trader, homemaker, and other occupations

Table 4. Dichotomized description of the different dimensions of social cohesion and well-being in Senegal in 2023.

Variable (N = 2174)	n (%)	IC à 95%
Sociocultural cohesion		
Yes	584 (26.86%)	[25% - 29%]
No	1590 (73.14%)	[71% - 75%]
Economic cohesion		
Yes	548 (25.21%)	[23% - 27%]
No	1626 (74.79%)	[73% - 77%]
Political cohesion		
Yes	491 (22.59%)	[21% - 24%]
No	1683 (77.41%)	[76% - 79%]
Overall social cohesion		
Yes	401 (18.45%)	[17% - 20%]
No	1773 (81.55%)	[80% - 83%]
Well-being		
Yes	967 (44.48%)	[42% - 47%]
No	1207 (55.52%)	[53% - 58%]

Table 5. Description of household characteristics by sociocultural cohesion in Senegal in 2023.

Variables	No (N = 1590)	Yes (N = 584)	p-value
Geographic area			0.012
Rural	810 (50.94%)	333 (57.02%)	
Urban	780 (49.06%)	251 (42.98%)	
Gender			0.042

Variables	No (N = 1590)	Yes (N = 584)	p-value
Female	320 (20.13%)	95 (16.27%)	
Male	1270 (79.87%)	489 (83.73%)	
Age group			<0.001
23-63 years	882 (55.47%)	275 (47.09%)	
≥64 years	708 (44.53%)	309 (52.91%)	
Marital status			0.5
Married	1432 (90.06%)	520 (89.04%)	
Unmarried	158 (9.94%)	64 (10.96%)	
Education			0.2
Yes (formal education)	755 (47.48%)	259 (44.35%)	
No	835 (52.52%)	325 (55.65%)	
Occupation			0.2
Administrative	95 (5.97%)	27 (4.62%)	
Non-administrative	1495 (94.03%)	557 (95.38%)	
Household size			0.3
≥9 persons	1387 (87.23%)	499 (85.45%)	
<9 persons	203 (12.77%)	85 (14.55%)	
Presence of chronic illness in household			0.039
Yes	936 (58.87%)	315 (53.94%)	
No	654 (41.13%)	269 (46.06%)	
Health insurance coverage			0.3
Yes	458 (28.81%)	181 (30.99%)	
No	1132 (71.19%)	403 (69.01%)	
Household income			0.2
< 300 000 West African CFA franc	1274 (80.13%)	481 (82.36%)	
≥ 300 000 West African CFA franc	316 (19.87%)	103 (17.64%)	
Economic status			0.030
Poor	1482 (93.21%)	559 (95.72%)	
Wealthy	108 (6.79%)	25 (4.28%)	

Table 6. *Description of household characteristics by economic cohesion in Senegal in 2023.*

Variables	No (N = 1626)	Yes (N = 548)	p-value
Geographic area			0.14
Rural	840 (51.66%)	303 (55.29%)	
Urban	786 (48.34%)	245 (44.71%)	
Gender			0.8
Female	312 (19.19%)	103 (18.80%)	

Variables	No (N = 1626)	Yes (N = 548)	p-value
Male	1314 (80.81%)	445 (81.20%)	
Age group			0.025
23-63 years	888 (54.61%)	269 (49.09%)	
≥64 years	738 (45.39%)	279 (50.91%)	
Marital status			0.2
Married	1468 (90.28%)	484 (88.32%)	
Unmarried	158 (9.72%)	64 (11.68%)	
Education			>0.9
Yes (formal education)	759 (46.68%)	255 (46.53%)	
No	867 (53.32%)	293 (53.47%)	
Occupation			0.060
Administrative	100 (6.15%)	22 (4.01%)	
Non-administrative	1526 (93.85%)	526 (95.99%)	
Household size			0.4
≥9 persons	1405 (86.41%)	481 (87.77%)	
<9 persons	221 (13.59%)	67 (12.23%)	
Presence of chronic illness in household			0.3
Yes	947 (58.24%)	304 (55.47%)	
No	679 (41.76%)	244 (44.53%)	
Health insurance coverage			0.8
Yes	476 (29.27%)	163 (29.74%)	
No	1150 (70.73%)	385 (70.26%)	
Household income			0.8
< 300 000 West African CFA franc	1311 (80.63%)	444 (81.02%)	
≥ 300 000 West African CFA franc	315 (19.37%)	104 (18.98%)	
Economic status			0.030
Poor	1516 (93.23%)	525 (95.80%)	
Wealthy	110 (6.77%)	23 (4.20%)	

Table 7. Description of household characteristics by political cohesion in Senegal in 2023.

Variables	No (N = 1683)	Yes (N = 491)	p-value
Geographic area			0.067
Rural	867 (51.52%)	276 (56.21%)	
Urban	816 (48.48%)	215 (43.79%)	
Gender			0.029
Female	338 (20.08%)	77 (15.68%)	
Male	1345 (79.92%)	414 (84.32%)	

Variables	No (N = 1683)	Yes (N = 491)	p-value
Age group			0.012
23-63 years	920 (54.66%)	237 (48.27%)	
≥64 years	763 (45.34%)	254 (51.73%)	
Marital status			0.8
Married	1510 (89.72%)	442 (90.02%)	
Unmarried	173 (10.28%)	49 (9.98%)	
Education			0.8
Yes (formal education)	900 (53.48%)	260 (52.95%)	
No	783 (46.52%)	231 (47.05%)	
Occupation			0.019
Administrative	105 (6.24%)	17.00 (3.46%)	
Non-administrative	1578 (93.76%)	474 (96.54%)	
Household size			0.9
≥9 persons	1461 (86.81%)	425 (86.56%)	
<9 persons	222 (13.19%)	66 (13.44%)	
Presence of chronic illness in household			0.6
Yes	963 (57.22%)	288 (58.66%)	
No	720 (42.78%)	203 (41.34%)	
Health insurance coverage			0.003
Yes	468 (27.81%)	171 (34.83%)	
No	1215 (72.19%)	320 (65.17%)	
Household income			0.5
< 300 000 West African CFA franc	1354 (80.45%)	401 (81.67%)	
≥ 300 000 West African CFA franc	329 (19.55%)	90 (18.33%)	
Economic status			0.4
Poor	1576 (93.64%)	465 (94.70%)	
Wealthy	107 (6.36%)	26 (5.30%)	

Table 8. *Description of variables by overall social cohesion in Senegal in 2023.*

Variables	No (N = 1773)	Yes (N = 401)	p-value
Geographic area			0.004
Rural	906 (51.10%)	237 (59.10%)	
Urban	867 (48.90%)	164 (40.90%)	
Gender			0.006
Female	358 (20.19%)	57 (14.21%)	
Male	1415 (79.81%)	344 (85.79%)	
Age group			0.031

Variables	No (N = 1773)	Yes (N = 401)	p-value
23-63 years	963 (54.31%)	194 (48.38%)	
≥64 years	810 (45.69%)	207 (51.62%)	
Marital status			0.5
Married	1596 (90.02%)	356 (88.78%)	
Unmarried	177 (9.98%)	45 (11.22%)	
Education			0.3
Yes (formal education)	837 (47.21%)	177 (44.14%)	
No	936 (52.79%)	224 (55.86%)	
Occupation			0.2
Administrative	105 (5.92%)	17 (4.24%)	
Non-administrative	1668 (94.08%)	384 (95.76%)	
Household size			0.6
≥9 persons	1535 (86.58%)	351 (87.53%)	
<9 persons	238 (13.42%)	50 (12.47%)	
Presence of chronic illness in household			0.6
Yes	1025 (57.81%)	226 (56.36%)	
No	748 (42.19%)	175 (43.64%)	
Health insurance coverage			0.028
Yes	503 (28.37%)	136 (33.92%)	
No	1270 (71.63%)	265 (66.08%)	
Household income			0.15
< 300 000 West African CFA franc	1421 (80.15%)	334 (83.29%)	
≥ 300 000 West African CFA franc	352 (19.85%)	67 (16.71%)	
Economic status			0.4
Poor	1661 (93.68%)	380 (94.76%)	
Wealthy	112 (6.32%)	21 (5.24%)	

Table 9. *Results of the impact analysis of well-being according to social cohesion and its dimensions.*

Cohesion Dimension	Well-being		OR	95%CI	p-value
	Yes	No			
Sociocultural cohesion					
Yes	269 (48%)	296 (52%)	1.27	[1.0-1.6]	0.048
No	236 (42%)	329 (58%)	-	-	-
Economic cohesion					
Yes	255 (47%)	285 (53%)	1.19	[0.9-1.5]	0.14
No	231 (43%)	309 (57%)	-	-	-
Political cohesion					

Cohesion Dimension	Well-being		OR	95%CI	p-value
	Yes	No			
Yes	225 (47%)	250 (53%)	1.27	[1.0-1.6]	0.068
No	197 (41%)	278 (59%)	-	-	-
Overall social cohesion					
Yes	181 (46%)	211 (54%)	1.26	[0.9-1.6]	0.11
No	159 (41%)	233 (59%)	-	-	-

References

[1] Schiefer D, van der Noll J. The Essentials of Social Cohesion: A Literature Review. *Soc Indic Res*. 2017; 132: 579–603. https://doi.org/10.1007/s11205-016-1314-5

[2] Durkheim E. The Division of Labor in Society (1893). Excerpt from Robert Alun Jones. Emile Durkheim: An Introduction to Four Major Works. Beverly Hills, CA: Sage Publications, Inc., 1986. Pp. 24-59]. https://durkheim.uchicago.edu/Summaries/dl.html (accessed 3 October 2025)

[3] Ariely G. Does Diversity Erode Social Cohesion? Conceptual and Methodological Issues. *Political Studies*. 2014; 62: 573–95. https://doi.org/10.1111/1467-9248.12068

[4] Carpiano RM. Toward a neighborhood resource-based theory of social capital for health: can Bourdieu and sociology help? *Soc Sci Med*. 2006; 62: 165–75. https://doi.org/10.1016/j.socscimed.2005.05.020

[5] Demographic Change and Healthy Ageing (DHA), Maternal, Newborn, Child & Adolescent Health & Ageing (MCA), Mental Health, Brain Health and Substance Use (MSD), *et al.* From loneliness to social connection: charting a path to healthier societies – Report of the WHO Commission on Social Connection. WHO, CC BY-NC-SA 3.0 IGO. 2025. https://www.who.int/publications/i/item/9782401123360 (accessed 3 October 2025)

[6] Demographic Change and Healthy Ageing (DHA), Maternal, Newborn, Child & Adolescent Health & Ageing (MCA), Mental Health, Brain Health and Substance Use (MSD), *et al.* Summary slide deck: Report of the WHO Commission on Social Connection. WHO, CC BY-NC-SA 3.0 IGO. 2025. https://www.who.int/publications/m/item/summary-slide-deck-report-of-the-who-commission-on-social-connection (accessed 3 October 2025)

[7] Wang F, Gao Y, Han Z, *et al.* A systematic review and meta-analysis of 90 cohort studies of social isolation, loneliness and mortality. *Nat Hum Behav*. 2023; 7: 1307–19. https://doi.org/10.1038/s41562-023-01617-6

[8] European Commission. Cohesion and well being - Culture and Creativity. Culture and Creativity. 2023. https://culture.ec.europa.eu/policies/selected-themes/cohesion-and-well-being (accessed 3 October 2025)

[9] Office of the Specail Advicer on Gender (OSAGI). Landmark resolution on Women, Peace and Security (Security Council resolution 1325). United Nations. 2023. https://www.un.org/womenwatch/osagi/wps/#resolution (accessed 3 October 2025)

[10] WANEP SENEGAL, GRADEC, Femmes Africa Solidarité (FAS), *et al.* Forum sur le renforcement de la cohésion sociale et la prévention des conflits au Sénégal. UNDP. 2024. https://www.undp.org/fr/senegal/evenements/forum-sur-le-renforcement-de-la-cohesion-sociale-et-la-prevention-des-conflits-au-senegal (accessed 3 October 2025)

[11] United Nations. Goal 3: Ensure healthy lives and promote well-being for all at all ages. United Nations Sustainable Development. 2015. https://www.un.org/sustainabledevelopment/health/ (accessed 3 October 2025)

[12] Regions. Agence Nationale de la Statistique et de la Démographie (ANSD) du Sénégal. https://www.ansd.sn/regions (accessed 20 December 2024)

[13] Agence nationale de la Statistique et de la Démographie. Cinquième Recensement général de la Population et de l'Habitat (RGPH-5) du Senegal. 2023. https://www.ansd.sn/sites/default/files/2023-10/RAPPORT-PRELIMINAIRE-RGPH-5_2023-.pdf (accessed 19 February 2024)

[14] Tine JAD, Diarra K, Diallo AI, *et al.* Analysis of the Trend in the Consumption of Psychoactive Substances in Senegal from 2018 to 2022. *Open Journal of Epidemiology*. 2024; 15: 36–49. https://doi.org/10.4236/ojepi.2025.151003

[15] Borsenberger M, Dickes P, Fleury C. Cohésion sociale et Variables exogènes. Published Online First: 2011.

[16] Valentova M. Age and sex differences in gender role attitudes in Luxembourg between 1999 and 2008. *Work Employment & Society*. 2013; 27: 639–57. https://doi.org/10.1177/0950017013481638

[17] Borsenberger M, Berzosa G. Valeurs et cohésion sociale. LISER, Valcos Project. 2011. https://liser.elsevierpure.com/fr/projects/valeurs-et-coh%C3%A9sion-sociale (accessed 3 October 2025)

[18] Easterly W, Ritzen J, Woolcock M. Social cohesion, Institutions and Growth. *Economics and Politics*. 2006; 18: 103–20. https://doi.org/10.1111/j.1468-0343.2006.00165.x

[19] Fleury C. Travail et cohésion sociale au Luxembourg. *Sociologie*. 2012; 3: 229–49. https://doi.org/10.3917/socio.033.0229

[20] Alesina A, Ferrara EL. The Determinants of Trust. *NBER Working Papers*. Published Online First: March 2000.

[21] Tine JAD. Mental Health Management during the COVID-19 Pandemic in Senegal: Lessons Learned. Health. 2025; 17: 1068–80. https://doi.org/10.4236/health.2025.179069