

Health Perceptions Among Citizens in the Province of Barletta-Andria-Trani (BAT), Southern Italy: A Cross-Sectional Study Using the Health Perception Questionnaire (QPS)

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ABSTRACT

Background: Health perception is increasingly recognized as a multidimensional concept encompassing physical, psychological, social, and lifestyle-related dimensions. Understanding how citizens conceptualize health is therefore essential for developing tailored public health strategies and community-based interventions. This study aimed to investigate perceptions of health among citizens and to examine associations with selected sociodemographic and clinical characteristics.

Methods: An observational cross-sectional study was conducted in the Italian province of Barletta-Andria-Trani (BAT), Puglia, Italy. A convenience sample of 257 adults (≥ 18 years) was recruited during public events in five municipalities (Andria, Barletta, Trani, Bisceglie, and Margherita di Savoia). Data were collected using the validated Health Perception Questionnaire (QPS), consisting of 35 Likert-scale items (1–4) addressing lifestyle, psychological, social, and biomedical aspects. Statistical analysis included descriptive analyses, reliability assessment using Cronbach's alpha, chi-square tests, and Fisher's exact tests.

Results: The Health Perception Questionnaire showed excellent internal consistency (Cronbach's $\alpha = 0.940$). Items related to lifestyle behaviors—physical activity, a balanced diet, and adequate sleep—showed the highest agreement rates ($>90\%$), whereas items reflecting a purely biomedical or disease-absence approach received the lowest agreement, particularly the association of a vegetarian diet with the concept of health (52.1%). Chi-square analysis of item-level agreement frequencies identified 28 statistically significant associations.

Conclusion: Citizens of the BAT Province conceptualize health predominantly in biopsychosocial and broadly holistic terms, rejecting a reductionist biomedical model. This study provides local data supporting community-based health promotion programs and nursing practice.

Keywords: health perception, Health Perception Questionnaire (QPS), cross-sectional study, public health, Southern Italy.

INTRODUCTION

Health represents one of the most widely investigated and, at the same time, most debated constructs in the field of public health sciences. The foundational definition of the World Health Organization (WHO)—“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” [1]—marked a fundamental shift from a purely biomedical approach to a biopsychosocial one. This conceptual shift was further reinforced by the Ottawa Charter for Health Promotion [2], which framed health as a dynamic process constructed through everyday life habits and requiring individual empowerment and intersectoral action.

In recent decades, self-perceived health (SPH) has been regarded as a predictor of morbidity, mortality, and health service use, even after adjustment for objective clinical indicators [3]. SPH reflects not only biological conditions but also psychological resources, social connections, and lifestyle-related behaviors, thereby serving as a comprehensive indicator of population health status. Despite a substantial body of international literature, evidence at the local community level remains limited, particularly in Southern Italy, where socioeconomic and cultural factors may distinctively shape subjective representations and assessments of health.

The Health Perception Questionnaire (QPS) is a validated Italian-language instrument specifically designed to assess citizens’ multidimensional perceptions of health [4]. Unlike generic quality-of-life instruments, the QPS explores not only physical and psychological dimensions but also relational, spiritual, economic, and lifestyle-related aspects. This makes it particularly useful for investigating how populations perceive health at the community level.

The objective of public health initiatives should be to promote citizens’ empowerment, strengthen their agency with regard to their own health, and establish stable mechanisms for participation in decision-making processes that affect them [5]. This orientation is consistent with recent developments in the United Kingdom National Health Service, which, through community-centred and community-powered approaches, aims to build structural partnerships with communities by

involving citizens and local organizations in the design, implementation, and evaluation of services [5].

Healthcare systems and public health institutions should invest in robust social, economic, and professional engagement with community life, in order to develop choices that are as closely aligned as possible with citizens' lived experience. This means moving from "doing health for citizens" to "doing health with citizens" [5].

In this regard, nurses are ethically committed to transforming health policies and ensuring the systematic involvement of individuals and communities in health-related decisions [6]. Knowledge of health determinants makes it possible to direct professional actions toward modifiable factors, namely those susceptible to correction and transformation: individual lifestyles, social and community networks, living and working environments, and, finally, the political, social, economic, and cultural context [7]. Given the evolving and multidimensional nature of the concept under investigation and the need to intervene on factors influencing the health status of individuals and communities, it is essential to understand what the concept of "health" means for each individual. The international literature reviewed reports instruments for measuring outcomes related to subjective health, including those associated with quality of life [8] and perceived well-being [9]; however, in the specific population of the Province of Barletta-Andria-Trani (BAT), the available literature is currently extremely limited. The QPS is an instrument developed and validated by Bonetti et al. [4] with the aim of investigating the concept of health from the citizen's perspective; the present study applies it to this specific geographical population in order to understand which individual variables may influence this concept in the Italian population [4].

Objective

This study, promoted by the University and Research Committee of the Order of Nursing Professions

of BAT Province (OPI-BAT), aims to describe how citizens of the BAT Province conceptualize and perceive health using the Health Perception Questionnaire (QPS), and to explore possible associations between QPS scores and the main sociodemographic and clinical variables.

MATERIALS AND METHODS

Study design

The study used an observational cross-sectional design. Data were collected using a standardized self-administered digital questionnaire delivered via tablet. The questionnaire included the 35-item QPS instrument, organized according to the original validated structure, and an additional section dedicated to participants' sociodemographic and clinical characteristics.

Specifically, data were collected on age, sex, educational level, and occupational status. Clinical and medical-history information was also collected, including the presence of chronic diseases, any recent hospitalizations, and medication use. No additional psychometric instruments or scales other than the QPS were included.

Setting and participants

The study was conducted in five municipalities of the BAT Province in Puglia, Southern Italy, namely Andria, Barletta, Trani, Bisceglie, and Margherita di Savoia. Together, these municipalities account for the majority of the provincial population and provide adequate geographical and sociodemographic heterogeneity. Data were collected during public events, mainly on weekends, in order to maximize access to a heterogeneous adult population. Specifically, recruitment took place during health promotion and health-awareness initiatives organized by the Order of Nursing Professions (OPI-BAT), local health fairs, prevention campaigns, and community meetings open to citizens and organized in collaboration with the Local Health Authority of BAT.

Potential participants were recruited directly by the researchers, who were present at dedicated

information stands or data collection points, and were invited to take part in the study through a brief presentation of its aims and participation procedures. Enrollment was voluntary.

Before participation, all subjects were provided with a digital information sheet, available on the tablets supplied to the researchers, containing the study objectives, data collection and processing procedures, guarantees of anonymity and confidentiality, and the possibility of withdrawing at any time without consequences. Informed consent was therefore obtained electronically directly on the device before completion of the questionnaire.

Data collection took place between 1 February 2026 and 31 March 2026. The inclusion criteria were: age ≥ 18 years, residence or domicile in the BAT Province, voluntary participation, and provision of digital informed consent. The exclusion criteria were: age < 18 years, non-residence in the BAT Province, inability to understand Italian, and refusal to provide consent.

Sampling strategy

The sampling strategy adopted was non-probabilistic and based on quota convenience sampling, defined to proportionally reflect the age distribution of the adult population of the BAT Province according to ISTAT 2023 data [10]: 18–25 years (9.3%, $n = 24$), 26–44 years (30.7%, $n = 79$), 45–64 years (30.7%, $n = 79$), and ≥ 65 years (29.3%, $n = 75$), for a total sample of 257 participants. No formal a priori sample size calculation was performed, as the study was exploratory and descriptive in nature and aimed to provide an initial analysis of the phenomenon under investigation.

Data collection instrument

The QPS [4] is a validated 35-item self-report questionnaire that assesses individuals' perception of health across several dimensions, including lifestyle behaviors, psychological well-being, relational and social aspects, spiritual health, economic factors, and biomedical perspectives.

Each item is rated on a 4-point Likert scale, where 1 indicates strongly disagree and 4 indicates

strongly agree. The questionnaire was administered through the Microsoft Forms digital platform and could be accessed via a QR code. To ensure equitable participation among older adults and individuals with limited digital skills, the study authors were available during all data collection sessions to assist with questionnaire completion, including reading questions aloud when necessary.

Data analysis

Quantitative data were analyzed using Jamovi software (Version 2.6; [11]). Descriptive statistics, including means, standard deviations, and frequency distributions, were calculated for all QPS items and sociodemographic variables. Cronbach's alpha was calculated to assess internal consistency in a geographical and cultural context different from that of the original validation study and thus to evaluate psychometric properties in different populations [12]. Following the method adopted by Bonetti et al. [4], responses to each item were dichotomized into two groups. Ratings of 3 (partially agree) and 4 (strongly agree) were considered agreement and coded as 1. Conversely, ratings of 1 (strongly disagree) and 2 (partially disagree) were classified as disagreement and coded as 0. Agreement frequencies for each item were then analyzed across the following subgroups: sex, age group, regular medication use, and presence of chronic disease, the four variables examined in the original study [4]. The chi-square test (χ^2) was used for all comparisons, and Fisher's exact test was applied when expected cell frequencies were below 5 [13]. For contingency tables showing a statistically significant overall association, post-hoc analyses were conducted using adjusted standardized residuals (ASRs) to identify the specific categories contributing to the observed association. Absolute ASR values greater than 1.96 were considered statistically significant, indicating that the observed frequency differed from the expected frequency under the null hypothesis at a two-tailed significance level of $\alpha = 0.05$ [13]. Positive residuals indicated over-representation, whereas negative residuals indicated under-representation. Statistical significance was set at $\alpha = 0.05$ (two-tailed).

RESULTS

Sample characteristics

A total of 257 participants were included in the analysis. The sociodemographic and clinical characteristics of the sample are shown in Table 1.

Variable	N	%
Sex		
Female	138	53.7
Male	119	46.3
Age group		
18–25 years	24	9.3
26–44 years	79	30.7
45–64 years	79	30.7
≥65 years	75	29.3
Education		
Primary school	32	12.5
Lower secondary school	41	16.0
Upper secondary school	124	48.2
Bachelor's degree	27	10.5
Master's degree	30	11.6
PhD	3	1.2
Chronic disease		
Yes	108	42.0
No	149	58.0
Regular medication use		
Yes	124	48.2
No	133	51.8
Hospitalizations in the previous year		
Yes	38	14.8
No	219	85.2

Table 1. Sociodemographic and clinical characteristics of the sample ($N = 257$).

The sample included 138 women (53.7%) and 119 men (46.3%). The largest age groups were those aged 26–44 years and 45–64 years, with 79 participants in each group, corresponding to 30.7% of the total. Most participants had completed education up to upper secondary school level, with 124 participants, representing 48.2% of the sample. Chronic disease was reported by 108 participants, corresponding to 42.0% of the group. Of the total sample, 124 individuals, or 48.2%, reported regular medication use. In addition, 38 participants, equal to 14.8%, had been hospitalized in the previous 12

months.

Internal reliability

The QPS showed very strong internal consistency across all 35 items (Cronbach's $\alpha = 0.940$), supporting its use as a measure of health perception in this sample.

Descriptive analysis of QPS items

Response distributions for each item (I1–I35) are reported in Table 2.

N	Item	Strongly disagree n (%)	Partially disagree n (%)	Partially agree n (%)	Strongly agree n (%)
1	Health is the desire to live	9 (3.5)	2 (0.8)	103 (40.1)	143 (55.6)
2	A healthy person feels free	8 (3.1)	18 (7.0)	103 (40.1)	128 (49.8)
3	A healthy person is active	8 (3.1)	17 (6.6)	104 (40.5)	128 (49.8)
4	Good sleep promotes health	7 (2.7)	18 (7.0)	79 (30.7)	153 (59.5)
5	A healthy person is able to ask for help	13 (5.1)	21 (8.2)	119 (46.3)	104 (40.5)
6	Physical activity is good for health	6 (2.3)	11 (4.3)	86 (33.5)	154 (59.9)
7	If I need ongoing care, I am ill	9 (3.5)	42 (16.3)	120 (46.7)	86 (33.5)
8	A balanced diet promotes health	6 (2.3)	13 (5.1)	87 (33.9)	151 (58.7)
9	Healthy people are physically fit	12 (4.7)	26 (10.1)	126 (49.0)	93 (36.2)
10	Health is influenced by social relationships	11 (4.3)	30 (11.7)	124 (48.2)	92 (35.8)
11	Healthy people follow a vegetarian diet	60 (23.3)	63 (24.5)	85 (33.1)	49 (19.1)
12	A healthy person is in harmony with themselves and with others	9 (3.5)	20 (7.8)	115 (44.7)	113 (44.0)
13	Taking medication is a sign of illness	28 (10.9)	59 (23.0)	106 (41.2)	64 (24.9)
14	The absence of worries is health	22 (8.6)	45 (17.5)	109 (42.4)	81 (31.5)
15	Family support promotes health	5 (1.9)	25 (9.7)	109 (42.4)	118 (45.9)
16	Having a satisfying sex life is an important component of health	7 (2.7)	26 (10.1)	122 (47.5)	102 (39.7)
17	Relationship difficulties can affect health	8 (3.1)	31 (12.1)	129 (50.2)	89 (34.6)
18	Being healthy means being independent	18 (7.0)	33 (12.8)	99 (38.5)	107 (41.6)
19	Health is influenced by economic well-being	19 (7.4)	27 (10.5)	132 (51.4)	79 (30.7)
20	Spiritual health is important	14 (5.4)	31 (12.1)	110 (42.8)	102 (39.7)
21	Being healthy means being free from worries	26 (10.1)	54 (21.0)	120 (46.7)	57 (22.2)
22	The absence of pain is a sign of good health	31 (12.1)	53 (20.6)	106 (41.2)	67 (26.1)
23	Paying attention to one's environment promotes health	6 (2.3)	26 (10.1)	130 (50.6)	95 (37.0)
24	Psychological problems are a sign of illness	15 (5.8)	44 (17.1)	123 (47.9)	75 (29.3)
25	If I have no physical signs or symptoms, I am healthy	30 (11.7)	48 (18.7)	120 (46.7)	59 (23.0)
26	A healthy person prevents disease	21 (8.2)	31 (12.1)	117 (45.5)	88 (34.2)
27	A healthy person has an active social life	17 (6.6)	28 (10.9)	123 (47.9)	89 (34.6)

28	Healthy people do not have harmful habits (drug use, alcohol misuse, smoking, or gambling)	34 (13.2)	39 (15.2)	112 (43.6)	72 (28.0)
29	Being healthy means being free from disease	19 (7.4)	42 (16.3)	115 (44.7)	81 (31.5)
30	Having a healthy body weight means being healthy	15 (5.8)	26 (10.1)	119 (46.3)	97 (37.7)
31	A healthy person takes care of themselves	9 (3.5)	18 (7.0)	118 (45.9)	112 (43.6)
32	Having a job influences health	8 (3.1)	25 (9.7)	128 (49.8)	96 (37.4)
33	Sharing with others promotes health	9 (3.5)	18 (7.0)	117 (45.5)	113 (44.0)
34	Being depressed means being ill	20 (7.8)	34 (13.2)	114 (44.4)	89 (34.6)
35	Poor health increases vulnerability	7 (2.7)	20 (7.8)	120 (46.7)	110 (42.8)

Table 2. *Distribution of responses to the 35 items of the Health Perception Questionnaire (QPS) (N = 257).*

The five items with the highest level of agreement, corresponding to ratings of 3–4, were: I6—physical activity promotes health (93.4%), I8—a balanced diet promotes health (92.6%), I1—health is the desire to live (95.7%), I4—good sleep promotes health (90.3%), and I3—a healthy person is active (90.3%). Conversely, the items with the lowest levels of agreement were those reflecting a purely biomedical or reductionist view of health: I21—being healthy means being free from worries (68.9%), I22—absence of pain is a sign of good health (67.3%), I25—absence of physical symptoms means health (69.6%), I13—taking medication is a sign of illness (66.1%), and I11—healthy people follow a vegetarian diet (52.1%).

Inferential Analysis

Following the approach of Bonetti et al. [4], agreement frequencies for each QPS item (ratings 3–4) were compared across four sociodemographic and clinical subgroups: sex, age group, regular medication use, and presence of chronic diseases. The chi-square test was applied, while Fisher's exact test was used when expected cell frequencies were below 5 [13]. Statistically significant results ($p < 0.05$) are presented in Table 3. Specifically, the table reports only those items showing at least one significant association ($p < 0.05$) among the items discussed in the text.

Item	Variable	Category	Agree n (%)	Disagree n (%)	χ^2	df	p	Standardized residue (z) [†]
I6) Physical activity promotes health	Sex	Female	124 (48.2%)	14 (5.4%)	6.013	1	0.014	-2.45 ↓
		Male	116 (45.1%)	3 (1.2%)				+2.45 ↑
I11) Healthy people follow a vegetarian diet	Age group	18–25 years	6 (2.3%)	18 (7.0%)	19.416	3	< 0.001	-2.80 ↓
		26–44 years	35 (13.6%)	44 (17.1%)				-1.68
		45–64 years	40 (15.6%)	39 (15.2%)				-0.32
		≥65 years	53 (20.6%)	22 (8.6%)				+3.82 ↑
	Chronic disease	Yes	65 (25.3%)	43 (16.7%)	4.832	1	0.028	+2.20 ↑
		No	69 (26.8%)	80 (31.1%)				-2.20 ↓
I13) Taking medications is a sign of illness	Age group	18–25 years	11 (4.3%)	13 (5.1%)	17.259	3	< 0.001	-2.21 ↓
		26–44 years	47 (18.3%)	32 (12.5%)				-1.50
		45–64 years	49 (19.1%)	30 (11.7%)				-0.93
		≥65 years	63 (24.5%)	12 (4.7%)				+3.88 ↑
	Chronic disease	Yes	79 (30.7%)	29 (11.3%)	4.077	1	0.043	+2.02 ↑
		No	91 (35.4%)	58 (22.6%)				-2.02 ↓
I14) Being free from worries means being healthy	Sex	Female	95 (37.0%)	43 (16.7%)	4.005	1	0.045	-2.00 ↓
		Male	95 (37.0%)	24 (9.3%)				+2.00 ↑
	Age group	18–25 years	9 (3.5%)	15 (5.8%)	22.620	3	< 0.001	-4.27 ↓
		26–44 years	55 (21.4%)	24 (9.3%)				-1.05
		45–64 years	63 (24.5%)	16 (6.2%)				+1.42
		≥65 years	63 (24.5%)	12 (4.7%)				+2.36 ↑
	Regular medication use	Yes	99 (38.5%)	25 (9.7%)	4.340	1	0.037	+2.08 ↑
		No	91 (35.4%)	42 (16.3%)				-2.08 ↓
	Chronic disease	Yes	88 (34.2%)	20 (7.8%)	5.512	1	0.019	+2.35 ↑
		No	102 (39.7%)	47 (18.3%)				-2.35 ↓
I18) Being healthy means being independent	Age group	18–25 years	13 (5.1%)	11 (4.3%)	12.422	3	0.006	-3.35 ↓
		26–44 years	65 (25.3%)	14 (5.4%)				+0.57
		45–64 years	63 (24.5%)	16 (6.2%)				-0.11
		≥65 years	65 (25.3%)	10 (3.9%)				+1.68
	Regular medication use	Yes	106 (41.2%)	18 (7.0%)	4.277	1	0.039	+2.07 ↑
		No	100 (38.9%)	33 (12.8%)				-2.07 ↓
I21) Being healthy means being free from worries	Age group	18–25 years	9 (3.5%)	15 (5.8%)	23.072	3	< 0.001	-3.49 ↓
		26–44 years	48 (18.7%)	31 (12.1%)				-1.87
		45–64 years	56 (21.8%)	23 (8.9%)				+0.46
		≥65 years	64 (24.9%)	11 (4.3%)				+3.66 ↑
	Regular medication	Yes	93 (36.2%)	31 (12.1%)	4.198	1	0.040	+2.05 ↑

Item	Variable	Category	Agree n (%)	Disagree n (%)	χ^2	df	p	Standardized residue (z) [†]
	use							
		No	84 (32.7%)	49 (19.1%)				-2.05 ↓
	Chronic disease	Yes	86 (33.5%)	22 (8.6%)	10.056	1	0.002	+3.17 ↑
		No	91 (35.4%)	58 (22.6%)				-3.17 ↓
I22) Absence of pain is a sign of good health	Age group	18–25 years	9 (3.5%)	15 (5.8%)	29.001	3	< 0.001	-3.27 ↓
		26–44 years	47 (18.3%)	32 (12.5%)				-1.78
		45–64 years	50 (19.5%)	29 (11.3%)				-0.92
		≥65 years	67 (26.1%)	8 (3.1%)				+4.83 ↑
	Regular medication use	Yes	94 (36.6%)	30 (11.7%)	7.852	1	0.005	+2.80 ↑
		No	79 (30.7%)	54 (21.0%)				-2.80 ↓
	Chronic disease	Yes	82 (31.9%)	26 (10.1%)	6.278	1	0.012	+2.51 ↑
		No	91 (35.4%)	58 (22.6%)				-2.51 ↓
I24) Psychological problems are a sign of illness	Age group	18–25 years	14 (5.4%)	10 (3.9%)	16.751	3	< 0.001	-2.29 ↓
		26–44 years	60 (23.3%)	19 (7.4%)				-0.28
		45–64 years	55 (21.4%)	24 (9.3%)				-1.88
		≥65 years	69 (26.8%)	6 (2.3%)				+3.66 ↑
	Chronic disease	Yes	90 (35.0%)	18 (7.0%)	4.168	1	0.041	+2.04 ↑
		No	108 (42.0%)	41 (16.0%)				-2.04 ↓
I25) If I have no physical signs or symptoms, I am healthy	Age group	18–25 years	8 (3.1%)	16 (6.2%)	24.009	3	< 0.001	-4.06 ↓
		26–44 years	53 (20.6%)	26 (10.1%)				-0.59
		45–64 years	54 (21.0%)	25 (9.7%)				-0.30
		≥65 years	64 (24.9%)	11 (4.3%)				+3.51 ↑
	Regular medication use	Yes	95 (37.0%)	29 (11.3%)	5.496	1	0.019	+2.34 ↑
		No	84 (32.7%)	49 (19.1%)				-2.34 ↓
	Chronic disease	Yes	84 (32.7%)	24 (9.3%)	5.822	1	0.016	+2.41 ↑
		No	95 (37.0%)	54 (21.0%)				-2.41 ↓
I26) A healthy person engages in disease prevention	Sex	Female	103 (40.1%)	35 (13.6%)	4.858	1	0.028	-2.20 ↓
		Male	102 (39.7%)	17 (6.6%)				+2.20 ↑
	Regular medication use	Yes	106 (41.2%)	18 (7.0%)	4.853	1	0.028	+2.20 ↑
		No	99 (38.5%)	34 (13.2%)				-2.20 ↓
	Chronic disease	Yes	93 (36.2%)	15 (5.8%)	4.646	1	0.031	+2.16 ↑
		No	112 (43.6%)	37 (14.4%)				-2.16 ↓
I27) A healthy person has an active social life	Chronic disease	Yes	97 (37.7%)	11 (4.3%)	6.919	1	0.009	+2.63 ↑
		No	115 (44.7%)	34 (13.2%)				-2.63 ↓
I28) Healthy people have no vices (drugs,	Age group	18–25 years	12 (4.7%)	12 (4.7%)	10.825	3	0.013	-2.46 ↓

Item	Variable	Category	Agree n (%)	Disagree n (%)	χ^2	df	p	Standardized residue (z) [†]
alcohol, smoking, gambling)		26–44 years	53 (20.6%)	26 (10.1%)				-1.07
		45–64 years	57 (22.2%)	22 (8.6%)				+0.13
		≥65 years	62 (24.1%)	13 (5.1%)				+2.53 ↑
	Regular medication use	Yes	96 (37.4%)	28 (10.9%)	3.996	1	0.046	+2.00 ↑
		No	88 (34.2%)	45 (17.5%)				-2.00 ↓
	Chronic disease	Yes	89 (34.6%)	19 (7.4%)	10.708	1	0.001	+3.27 ↑
		No	95 (37.0%)	54 (21.0%)				-3.27 ↓
I29) Being healthy means the absence of disease	Age group	18–25 years	14 (5.4%)	10 (3.9%)	10.816	3	0.013	-2.17 ↓
		26–44 years	59 (23.0%)	20 (7.8%)				-0.40
		45–64 years	57 (22.2%)	22 (8.6%)				-1.03
		≥65 years	66 (25.7%)	9 (3.5%)				+2.84 ↑
	Regular medication use	Yes	102 (39.7%)	22 (8.6%)	4.755	1	0.029	+2.18 ↑
		No	94 (36.6%)	39 (15.2%)				-2.18 ↓
	Chronic disease	Yes	91 (35.4%)	17 (6.6%)	6.577	1	0.010	+2.56 ↑
		No	105 (40.9%)	44 (17.1%)				-2.56 ↓
I30) Having a healthy weight means being healthy	Chronic disease	Yes	97 (37.7%)	11 (4.3%)	4.622	1	0.032	+2.15 ↑
		No	119 (46.3%)	30 (11.7%)				-2.15 ↓
I34) Being depressed means being ill	Age group	18–25 years	16 (6.2%)	8 (3.1%)	11.511	3	0.009	-1.56
		26–44 years	63 (24.5%)	16 (6.2%)				+0.20
		45–64 years	56 (21.8%)	23 (8.9%)				-2.12 ↓
		≥65 years	68 (26.5%)	7 (2.7%)				+2.95 ↑
	Chronic disease	Yes	94 (36.6%)	14 (5.4%)	7.271	1	0.007	+2.70 ↑
		No	109 (42.4%)	40 (15.6%)				-2.70 ↓

Table 3. Statistically significant associations between QPS items and sample characteristics ($N = 257$). Chi-square test (or Fisher's exact test, where appropriate); percentages were calculated on the total sample.

In the last column of Table 3, the Adjusted standardized residuals (z) derived from post-hoc residual analysis were reported. Absolute values of $|z| > 1.96$ indicate categories that were significantly overrepresented (↑) or underrepresented (↓) relative to expected frequencies ($\alpha = 0.05$, two-tailed test); these values are shown in bold.

Of the 140 combinations tested, comprising 35 items each evaluated across four variables, 28 associations (20.0%) were found to be statistically significant. Age group showed the strongest association, with 11 items displaying significant differences (I11, I13, I14, I18, I21, I22, I24, I25, I28, I29, I34). Items reflecting biomedical or symptom-free conceptions of health exhibited a consistent gradient of increasing agreement across older age groups: I22—absence of pain as an indicator of good health (18–25 years: 37.5% vs. ≥ 65 years: 89.3%), I21—being healthy means being free from worries, I14—absence of worries is health, and I25—absence of physical symptoms indicates good health (all $p < 0.001$). Item I11—healthy people follow a vegetarian diet—showed the steepest age-related gradient, with agreement increasing from 25.0% in the 18–25 age group to 70.7% among participants aged ≥ 65 years ($p < 0.001$).

The presence of a chronic disease was associated with significantly higher agreement on 11 items (I11, I14, I21, I22, I25, I26, I27, I28, I29, I30, I34). Regular medication use was associated with four significant items (I22, I25, I26, I29). Sex differences were limited to two items: I6—physical activity promotes health ($p = 0.028$; males: 97.5% vs. females: 89.9%) and I26—a healthy person engages in disease prevention ($p = 0.041$).

DISCUSSION

The findings of this survey provide a clear picture of how health is conceptualized among residents of the BAT Province. Most participants did not conceptualize health as a narrowly biomedical construct. For most participants, being healthy means being active, maintaining social relationships, eating well, sleeping well, and feeling free, rather than simply being free from disease diagnoses. This perspective is consistent with the World Health Organization's definition of health [1] and with Antonovsky's salutogenic model [14], which conceptualizes health in terms of the resources individuals draw upon to cope with everyday challenges rather than the mere absence of pathology. The QPS showed excellent reliability in this sample. A Cronbach's alpha of 0.940 indicates excellent

internal consistency and confirms the value reported in the Italian validation study [4]. This finding is encouraging, as it suggests that the instrument performs well not only in Northern Italy, where it was originally tested, but also in Southern Italian populations. The five items receiving the highest levels of agreement—physical activity, balanced nutrition, adequate sleep, vitality, and active self-care—indicate a conception of health as an active process, something that is cultivated and maintained rather than simply experienced.

These findings are consistent with a growing body of evidence showing that health beliefs among citizens, both in Italy and internationally, are increasingly oriented toward behavioral determinants of health, moving away from passive and exclusively disease-centred models [15,16]. The fact that 95.7% of respondents agreed with the statement “health is the desire to live” (I1) effectively summarizes this perspective: for the participants in this study, health is not merely the absence of disease but, more importantly, an attitude toward life and the way it is lived [17].

The item generating the greatest disagreement, namely “healthy people follow a vegetarian diet” (I11; 47.9% disagreement), warrants brief consideration. Southern Italy, characterized by one of the world’s most deeply rooted Mediterranean dietary traditions, may have led participants to distinguish between healthy eating and adherence to a specific vegetarian dietary pattern. This finding should not necessarily be interpreted as a rejection of healthy nutrition, but rather as a culturally shaped reluctance to equate health with a single dietary model. Results such as these highlight the importance of interpreting health perception instruments within their cultural context. However, the low level of agreement with this item may not be attributable solely to cultural factors. It may also reflect an inherent limitation in the item’s wording, which appears to imply a direct and exclusive association between health and vegetarianism. This ambiguity has already been noted in the literature [4], and its recurrence in the present sample suggests a potential limitation of the instrument that should be considered in future revision and adaptation processes.

Age emerged as the variable most strongly associated with differences in health perceptions. Older

adults consistently showed higher levels of agreement with items defining health in terms of the absence of symptoms, pain, medication use, or visible signs of illness. This generational difference likely reflects two complementary factors. On the one hand, many individuals aged 65 years and older were socialized within a more traditional conception of health. On the other hand, they have direct experience of age-related physical decline. As individuals experience increasing age-related physical limitations, the absence of symptoms may indeed come to be perceived as synonymous with good health.

Post-hoc analysis of adjusted standardized residuals (ASRs) [14], conducted for all associations found to be significant in the chi-square analyses, provided insight beyond the overall statistical significance by identifying the specific categories contributing most strongly to each association. An adjusted standardized residual measures, for each cell in a contingency table, the difference between observed and expected frequencies under the assumption of independence, expressed in standard deviation units. Absolute values greater than 1.96 indicate a statistically significant deviation ($\alpha = 0.05$), with positive values indicating over-representation and negative values indicating under-representation relative to expected frequencies.

In the present sample, for nearly all items reflecting a biomedical conception of health (I11, I14, I21, I22, and I25), individuals aged ≥ 65 years consistently displayed the highest positive residuals (ASRs ranging from +2.36 to +4.83), whereas participants aged 18–25 years showed the most pronounced negative residuals (ASRs ranging from -2.80 to -4.27). Therefore, it was specifically the oldest age group, rather than a generic age-related trend, that primarily drove the significance of these associations. This level of detail, obtainable only through residual analysis rather than the overall chi-square p -value, strengthens the clinical interpretation that the lived experience of ageing is specifically associated with a symptom-oriented view of health.

Sex differences were limited but interpretable. Men showed higher agreement with items relating to physical activity as a health-promoting behavior (I6) and to the belief that a healthy person actively

prevents disease (I26). These patterns are consistent with previous literature reporting sex-specific health behaviors, whereby men tend to associate health more strongly with physical performance and preventive actions [4]. The absence of significant sex differences across most other items suggests that, at least within this sample, men and women share broadly similar conceptions of health.

Participants with chronic diseases showed higher levels of agreement with biomedical-oriented items (I21, I22, I28, and I29) compared with participants without chronic conditions. At first glance, this finding may appear counterintuitive, as individuals living with chronic illness might be expected to develop a more complex understanding of health. However, the result is consistent with the findings reported by Bonetti et al.; the lived experience of disease may reinforce symptom-centred conceptions of health rather than challenge them. Similarly, individuals who reported regular medication use were more likely to agree that health is characterized by the absence of physical symptoms (I25) and pain (I22). This further suggests that the daily experience of managing health conditions influences—and may sometimes narrow—the way health itself is conceptualized.

From a nursing perspective, perhaps the most noteworthy finding is that participants rarely defined health as merely the absence of disease. Several concepts traditionally emphasized in nursing health education—including physical activity (I6), maintaining a healthy weight (I30), avoiding substance misuse (I28), and practicing active self-care (I31)—received widespread support. This provides nurses with a concrete starting point for health promotion interventions. By encouraging healthy behaviors, nurses can build upon individuals' existing understanding of health rather than attempting to challenge deeply rooted biomedical beliefs. Understanding what health means to each person is not an ancillary aspect of care but a fundamental prerequisite for delivering genuinely person-centred nursing practice.

These findings should also be considered within the broader context of evidence concerning territorial health inequalities in Italy. National studies based on data from the ISTAT Multipurpose Household Survey have consistently shown that self-rated health is less favorable in Southern Italy than in

Central and Northern regions, with this disparity becoming more pronounced in recent years and particularly affecting women [19]. Similar geographic gradients are also reflected in ISTAT indicators of healthy life expectancy, which document a structural disadvantage for Southern Italy compared with the North. This national picture is broadly consistent with the present findings. Despite living in a southern Italian context, residents of the BAT Province reported high levels of agreement with items related to active and health-promoting lifestyles. This suggests that subjective conceptions of health do not necessarily align with objective population health indicators but may instead be shaped by local cultural factors, including the Mediterranean dietary tradition and the strong social and community networks typically found in small- and medium-sized Southern Italian settings. However, it should be noted that, to our knowledge, no other Italian studies have applied the QPS instrument in different provinces or regions. Consequently, direct comparison with the original validation study conducted in Northern Italy [4] remains the only instrument-specific benchmark currently available.

Limitations

Several limitations should be considered when interpreting the findings of this study. First, although the quota convenience sampling strategy was designed to reflect the age distribution of the BAT Province according to ISTAT 2023 data, participants were not selected through random sampling. This introduces a potential risk of selection bias and limits the generalizability of the findings to the entire adult population of the province (approximately 300,000 inhabitants).

Second, the cross-sectional design provides a snapshot of participants' health perceptions at a single point in time and does not allow causal inferences to be drawn regarding the relationships between sociodemographic characteristics and health perceptions.

Third, the dichotomization of Likert-scale responses (1–2 vs. 3–4), although consistent with the methodological approach adopted by Bonetti et al. [4], may have resulted in some loss of information and reduced the discriminative capacity of the analyses.

Additional sources of bias should also be acknowledged. These include social desirability bias, particularly among participants who received assistance from study personnel while completing the questionnaire, potentially leading to unintentional influence on responses; non-response bias, whereby individuals who declined participation may systematically differ from those who took part; and possible incidence–prevalence bias resulting from the over- or under-representation of individuals with chronic diseases or polypharmacy compared with the resident adult population.

Finally, the absence of a formal a priori sample size calculation represents a further limitation. Although this may be justified by the exploratory nature of the study, future research should aim to overcome this limitation through probabilistic sampling strategies and adequately powered study designs.

CONCLUSIONS

In conclusion, residents of the BAT Province generally conceptualize health in a holistic manner, considering not only the body but also lifestyle, interpersonal relationships, and mental well-being as essential components of overall health. A purely biomedical perspective, defining health simply as the absence of disease or symptoms, was endorsed by only a minority of participants. Most respondents recognized that an individual may still perceive themselves as healthy while living with a chronic condition or undergoing ongoing treatment.

This finding is particularly relevant, as it has direct implications for how nurses and other healthcare professionals interact with patients and develop care plans [4]. Future research should employ probabilistic sampling methods across different Italian provinces to determine whether these patterns are consistent nationwide and to explore potential regional differences. Longitudinal studies may also help clarify whether individuals' perceptions of health change over time, for example following significant health-related experiences or as a consequence of ageing. Finally, the QPS appears to be a useful instrument for nursing assessment, as it captures what health means to each individual—

precisely the type of information required to support person-centred care [4].

Ethical Statements

The study protocol received formal approval from the Ethics Committee of the University Hospital of Foggia (Approval No. 17/CE/2026) on 26 February 2026. The study was conducted in accordance with the principles of the Declaration of Helsinki (2013 revision) [18] and the General Data Protection Regulation (GDPR—EU Regulation 2016/679). Digital informed consent was obtained from all participants prior to data collection. Participation in the study was voluntary and completely anonymous. No personally identifiable data were collected from participating subjects.

Conflicts of Interest

The authors declare that they have no conflicts of interest related to this study.

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Author Contributions

Conceptualization: D.P., Data curation: G.G., E.B., D.P., B.D. Formal analysis: E.B. Supervision: F.R., E.B., D.P. Visualization: M.B., G.P., F.R. Writing – original draft: G.G., E.B., V.S. Writing – review & editing: E.B., D.P., G.G. All authors critically revised the manuscript for important intellectual content and approved the final version for submission. E.B. is the corresponding author.

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