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Indicators of Human Well-Being on Brazilian Beaches

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Abstract

The green and blue spaces of the coastal regions are indicators for a life with less stress, more well-being and more health. Thus, the aim of this article is to analyze indicators of human well-being on Brazilian beaches from the perspective of their cultural ecosystem services. The method includes the development of the DAPSI(W)R(M) analysis model based on responses to an online questionnaire about the user profile of the Brazilian Coastal Zone. The results classified the indicators into two types: objective and subjective generated from themes and subthemes with approaches in tourism, environment, health, integrated coastal management and spirituality. And they demonstrate that when people go to the beaches or choose them to live, they consider in their choices the cultural services they offer to promote their well-being and health. Thus, it is suggested that new public policies be implemented to promote human well-being and health on Brazilian beaches from the perspective of coastal cultural ecosystem services.

Keywords: Well-Being; Beaches; Cultural Ecosystem Services; Health; Integrated Coastal Management

Introduction

More and more people are looking for beaches to seek well-being along with coastal nature. They realize that connecting with nature is potentially restorative, both physically and mentally [1,2]. In Ceccato (2021) the search for psychological restoration is undeniable and becomes evident when biodiversity, climate regulation, landscape contemplation and spirituality are identified as the ecosystem services that most encourage people to visit or live in the Brazilian Coastal Zone. And since natural beaches are preferred by the majority in Ceccato (2021), it is clear that this psychological restoration is associated with the environmental conservation of natural beaches. Thus, the coastal environment of natural beaches offers more opportunities for stress reduction, increased physical activity and a lifestyle where people are more integrated with nature.

And this restoration has the double benefit of reducing negative emotions associated with stress and increasing positive emotions and generating more physical and mental health [3,4] Thus, a large portion of this population that visits the coast throughout the year and enjoys its cultural services wants to return at some point as a visitor or as a new beach resident. This fact can be analyzed in an ambiguous way, since people's interest in beaches in the search for a less stressful life, but it is extremely worrying in relation to the environmental impacts that this population increase can cause in the coastal zone, such as problems in the quality of water, degradation of native vegetation, inappropriate use of the sand strip, change in sound pressure, increase in solid waste, drainage of streams on the beach, increase in the number of buildings, overhanging the sand, increase in the number of vehicles, among others. Remembering that this demographic density will demand economic concentration on the beaches in other sectors as well as fishing, civil construction, real estate, port activities in addition to the sun and beach tourism already promoted by the cultural services of the beaches [5,6] Brown; Hausner, 2017, Grellier et al., 2017, Souto et al., 2020). Thus, this study aims to analyze indicators of human well-being on Brazilian beaches from the perspective of their cultural ecosystem services.

The method used was based on the construction of the analysis model DAPSI(W)R(M), which is a causal model to describe the interactions between society and the environment in a more holistic way, that is, which expands the interdisciplinary vision. And for the analyses, the responses of an online questionnaire on the

user profile of the Brazilian Coastal Zone (ZCB) of Ceccato (2021) were used. The results classified the indicators into two types: objective and subjective generated from themes and subthemes with approaches in tourism, environment, health, integrated coastal management and spirituality. And they demonstrate that when people go to the beaches or choose them to live, they consider in their choices the cultural services that the beaches offer to promote their well-being and health. Furthermore, it appears that public policies can be implemented in order to promote the proper use of the cultural ecosystem services of the beaches and that environmental education includes in its actions examples of the cultural services of the beaches and what are their benefits for health and well-being. be local and global.

The Method

This article is dedicated to presenting the indicators of human well-being generated from the doctoral thesis that asked if "Was living near the coast healthier?" The study was carried out from the perspective of the Coastal Cultural Ecosystem Services of the Brazilian Coastal Zone for the promotion of human well-being. The thesis, presented in 2021, was divided into chapters and each of them addressed one of the specific objectives. The same happened with the contributions of the thesis, each of which responded to one of the corresponding specific objectives. Thus, the contributions were: conceptual innovations on human well-being in the coastal zone and the concept of cultural ecosystem services (1st specific objective and 1st chapter), the user profile of the Brazilian coastal zone (2nd specific objective and 2nd chapter), the system of human well-being indicators from the perspective of coastal cultural ecosystem services (3rd specific objective and 3rd chapter) and strategies for promoting human well-being also from the perspective of coastal cultural services (4th specific objective and 4th chapter). It is clear from the foregoing that the indicators addressed here are the 3rd specific objective and the 3rd chapter and that, following the research, they directly analyzed the results of the questionnaire on the profile of the user of the Brazilian coastal zone for the elaboration of the conceptual model DAPSI(W) R(M) based on [7] on the well-being indicators that will be presented below. It should be noted that the results of the 1st specific objective influenced the theoretical basis of the questionnaire and, therefore, some of its bibliographical references were used to discuss the objective and subjective indicators of human well-being in the Brazilian coastal zone.

Among these references, authors on sustainability, development on a human scale, eco-socioeconomics and good living served as inspiration, such as: Sachs (1986 a,b) Max Neef (2012), [8,9]. As well as international well-being researchers in the blue and green spaces of coastal areas worldwide, such as: White et al (2013), Wheeler et al (2012), Small et al (2017), Völker et al (2018), Wood et al. al (2017), [2-5,10,11,12-18] Philippi Júnior et al (2013), [1] , Hooyberg et al (2020), Foley; Kistemann (2015), Fish; Church; Winter (2016), Enke (2017), Díaz et al (2018), Church et al (2014), Carrilho; Sinisgalli (2018), Bullock; Joyce; Collier (2018),Bryce et al (2016), Brown et al (2016,2017), Bonin; Bonilha (2015). The Sustainable Development Goals of the United Nations 2030 Agenda (2015) are also the foundation for the creation of indicators for the Brazilian coastal zone. Equally important was the Millenium Ecosystem Assessment (MEA, 2005 a, b) which proved to be the basis for the study of well-being in this research through the dimensions related to cultural ecosystem services [19]. The Slow Movement through its experiences and philosophy connected with good living was a reference for the creation of indicators based on lifestyles that are more respectful of the local cultural characteristics of coastal areas and the use of time in a differentiated way to promote a healthier and more sustainable life.

The Questionnaire

The questionnaire on the user profile of the Brazilian coastal zone from the perspective of cultural ecosystem services was inspired by an English study, whose results pointed to increased well-being for those who were closer to the coastline (Wheeler et al., 2012). From then on, a structured questionnaire was developed with 37 questions divided into five (5) different themes. The five themes contained related questions: 1. coastal zone user profile; 2. geography of the coastal zone; 3. on the way to the beach; 4. user habits and 5. ecosystem services in the coastal zone. The questionnaire was posted on Google Forms and disseminated on social media for nine months between December 2019 and August 2020. Approximately three thousand invitations were made and 875 questionnaires were answered, most of which were from Santa Catarina. The questionnaire link was sent electronically to whatsapp groups, to users of social media Instagram and Facebook who carry out environmental conservation and tourism actions in the Brazilian coastal zone. It was also sent to universities that have graduate programs in environmental, tourism and health sciences in various regions of the country. It was requested that the questionnaire was replicated by them in order to reach a greater number of participants in the research.

The questionnaire had an initial presentation text with an invitation and then made available the Free and Informed Consent Form (TCLE) so that the respondent could accept or not participate in the research. In the TCLE it was also informed that the research was approved by the Ethics Committee. The results of the questionnaire suggest that the distance that separates Brazilians, through their different cultures and perception of the beach environment, can interfere with the way they use the beach and coastal zone, and the expectations they have about them. In this way, considering the perception of different users in the process of coastal management and governance is essential for Brazilian coastal municipalities to establish infrastructure, security and information strategies – these being fundamental elements for the promotion of human well-being on Brazilian beaches. It is also concluded that regardless of the distance from the coastline, Brazilians seek the beaches and their cultural services to enjoy tranquility, peace, contact and connection with nature, connection

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with themselves, promotion of mental and physical health.

Dapsi(W)R(M) of Well-Being in the Brazilian Coastal Zone

The DAPSI(W)R(M) conceptual model [7] should be seen through a spiral interpretation between diagnostic processes, development of actions and diagnostic reassessment, expanding the holistic and interdisciplinary view in the analysis of its components to generate interactions between society and the environment through the topics: pressures, states, impacts and responses. After researching scientific references and results of the online questionnaire on the profile of the Brazilian Coastal Zone (ZCB) user, three sets of pressures were established for DAPSI(W)R(M) [7] on beaches. For the first set of pressures, climate change and urbanization were considered. In the second set of pressures, tourism, the real estate sector, port activities, oil and industrial and artisanal fishing are mentioned. And for the third set of pressures were defined: population increase in the ZCB, drainage of streams on the beach, circulation of vehicles on the beach, generation of solid waste, increase in user density, increase in traffic, increase in buildings on the edge, inappropriate use of the strip of sand and an increase in the number of athletes on the beach.

In the state component of the DAPSI(W)R(M) [7] there is then: change in sound pressure (noise), increase in solid waste, higher risk of drowning, little use or inappropriate use of tourist attractions, use differentiated from cultural services on natural beaches and on urban beaches, presence of domestic animals on the beach, beach cleanliness, lack of sources of drinking water, few lifeguards and first aid equipment, lack of information and environmental education and lack of services (bathroom, shower, wastebaskets). After analyzing the pressures and their states, the following impacts emerge: problems in the quality of sea water (lack of bathing facilities), increase in the number of exotic species, changes in human well-being, degradation of native vegetation, inappropriate use of the strip of sand, changing the color of the beach sand and shading the sand strip.

As a response, the following objective and subjective indicators are suggested for a beach management system that is as interdisciplinary and intersectoral as possible, adapted to the local reality, but with a global view. That education programs and projects for environmental conservation are more stimulating for environmental experiences, that education for tourism is sustainable and solidary in order to better understand people's demands in relation to the well-being they seek on the beaches. That public policies be built with various actors in order to think about the best way to conserve coastal nature and how human relations can be more respectful of the environment. The actions of the response component can be related in a two-way way with the impact, state and pressures components, always thinking about the greater response, which is human well-being.

Objective Indicators

The objective indicators of human well-being built from the perspective of cultural services on the beaches were so called to facilitate the understanding that they refer to aspects that can be measured with specific measurement units of frequency, quantity and whether they are present or absent, as well as they have a common data source to be accessed at different times of the year. They were divided into four themes and twelve subthemes that generated 40 indicators, as shown in Tables 1- 4 and Figure 1. Objective indicators show possibilities for intervention by integrated coastal management, tourism and health in promoting human well-being. They were prioritized based on the DAPSI(W)R(M) results [7] of well-being in the Brazilian coastal zone (Figure 2).

Table 1: System of Objective Indicators of Human Well-Being from the Perspective of Coastal Cultural Ecosystem Services for the Environment Topic. Area: Brazilian Coastal Zone.

Topic	Subtopic	Objective Indicators	Frequency	Source
Environment	**Clean Sea**	Bathing on the Beaches of the Coastal Municipality (Present/Absent)	Monthly	Environment Institute
	Native Vegetation	Native Vegetation on the Beaches of the Coastal Municipality (Present/Absent)	Yearly	Municipal Secretary of the Environment
	Coastal Landscape	Visual Quality of the Landscape in the Coastal Municipality (present/absent)	Yearly	Municipal Secretary of the Environment
	Type of Beach	Natural Beaches in the Coastal Municipality (meters) Urbanized Beaches in the Coastal Municipality (meters) Sandy beaches (meters) Dissipative beaches (meters) Reflective beaches (meters)	Yearly	Municipal Secretary of the Environment

Source: The author (2021).

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Table 2: System of Objective Indicators of Human Well-Being from the Perspective of Coastal Cultural Ecosystem Services for the Tourism Topic Area: Brazilian Coastal Zone

		Objective Indicators		
Tourism	Tourism Companies	- Number of inns and 2 and 3star hotels in the Coastal Municipality/year	Yearly	Municipal Secretary of Sports
		- Number of inns and 4 and 5 star hotels in the Coastal Municipality/year		
		- Number of Spa Centers in the Coastal Municipality/year		
	Itineraries And Tourist Information	- Number of types of Ecotourism tours in the Coastal Municipality/year		Municipal Secretary of Tourism
		- Number of Traditional Fishing Communities in the Coastal Municipality/year		
		- Number of Tourist Information Offices in the Coastal Municipality/year		
		- Local Handicraft Products Cataloged in the Coastal Municipality (present/absent)		
	Sports	- Number of areas destined for Collective Games on the Beach of the Coastal Municipality/year		
		- km of cycle paths on the Coastal Municipality Rim/year		
		- Km of lanes for Walking and Jogging on Praia do Município Costeiro/year		
		- Number of Surf Schools on the Beach of the Coastal Municipality/year		
		- Number of Diving Schools on the Beach of the Coastal Municipality/year		
		- Number of Restaurants with Typical Local and Regional Dishes on the Waterfront of the Coastal Municipality/year		
	Food	- Number of Restaurants with Typical Local and Regional Dishes on the Waterfront of the Coastal Municipality/year		

Source: The author (2021).

Table 3: System of Objective Indicators of Human Well-Being from the Perspective of Coastal Cultural Ecosystem Services for Health Area: Brazilian Coastal Zone.

		Objective Indicators		
Saude	Saude Integral	Number of Public Hospital Beds in the Municipality	Monthly	Municipal Secretary of Health
		Number of Basic Public Health Units in the Municipality		
		Number of Public Specialty Centers in the Municipality		
		Number of Public Pharmacies in the Municipality		
		Number of Psychosocial Care Centers (CAPS) in the Municipality		
		Number of Health Care Centers (NAS) in the Municipality		
		Number of Public Health Academies in the Coastal Municipality		
		Average Years of Life Expectancy in the Coastal Municipality		Human Development Index
		Prevalence rate of Functional Disability in Physical Mobility in the Coastal Municipality		Brazilian Institute of Geography and Statistics

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		Chronic Disease Prevalence Rate in the Coastal Municipality		Brazilian Institute of Geography and Statistics Atlas of Human Development

Source: The author (2021).

Table 4: System of Objective Indicators of Human Well-Being from the Perspective of Coastal Cultural Ecosystem Services for the Integrated Coastal Management Theme

Topic	Sub Topic	Objective indicators	Frequency	Source
Integrated Coastal Management	Beach Management	Number of Fixed Residents in the Coastal Municipality/ year	Yearly	Municipal Secretary of Tourism
		Number of Tourists in the Coastal Municipality/year		
		Number of second-residents in the coastal municipality/ year		
		Number of excursionist/ years		
		Per capita Municipal Income of visitors/Coastal Municipality per year		Municipal Secretary of the Environment
		Average age of visitors to the Coastal Municipality/year		
		Beach Certification Programs in the Coastal Municipality		
		(present/absent)		Brazilian Institute of Geography and Statistics
		Number of Public Toilets on Praia do Município Costeiro/km		
		Number of Public Showers on the Beach of the Coastal Municipality/year		
		Number of Public Dumpsters on Praia do Município Costeiro/year		State Secretary of Tourism
		Number of beach walkways in the Coastal Municipality per km/year		

Source: The author (2021).

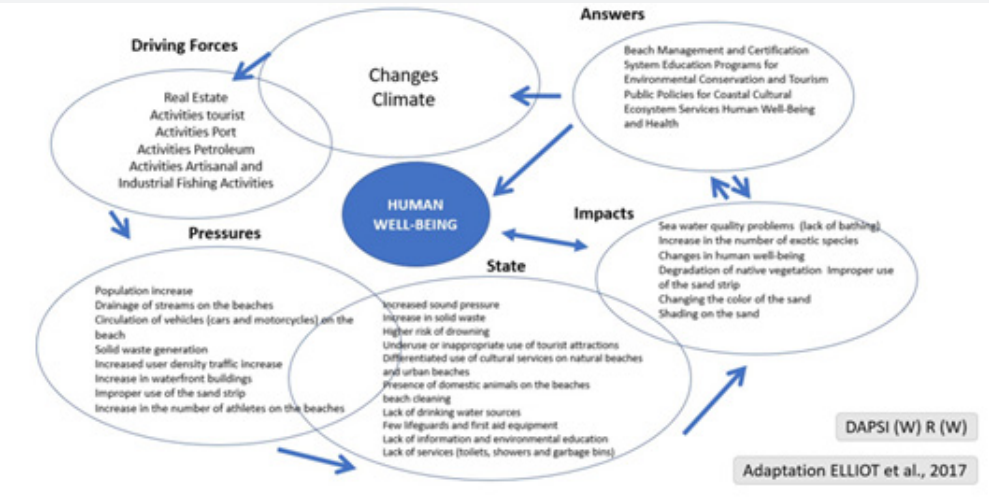

Figure 1: DAPSI(W)R(M) of well-being in the Brazilian coastal zone.
Source: The author (2021).

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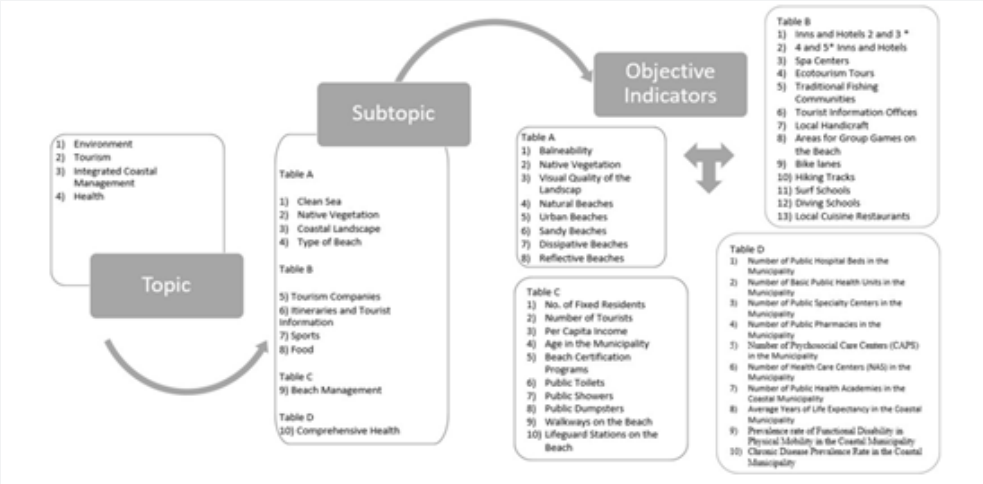

Figure 2: Objective Indicators for Human Well-Being in the Brazilian Coastal Zone from the Perspective of Cultural Ecosystem Services.
Source: The author (2021).

So that all these coastal cultural ecosystem services can be experienced with the best environmental and cultural experiences, there must be environmental conservation in the extension. Special attention is needed from Integrated Coastal Management for the strategic planning of public policies that guide socio-environmental awareness actions with all entities in society, but that direct their special attention to the formation and education of children in relation to sustainability (CECCATO; POLETTE, 2019). It should be remembered that the benefits of cultural ecosystem services are mainly immaterial, such as education, leisure, recreation, historical, aesthetic and community values, a sense of belonging to the place and cultural identity. And, for them to be experienced in the best possible way, they must move, sensitize and motivate people towards a life with more meaning and personal and collective meaning [5,9,19]. Among the 37 questions in the online questionnaire on the profile of users of the Brazilian Coastal Zone (ZCB), some questions were highlighted for the analysis of indicators, such as: What is well-being for you? and What ecosystem services do you prefer? The answers to these two questions are very important for the interpretation of society's current moment, where there is a search for psychological restoration, for more physical health and for environmental awareness.

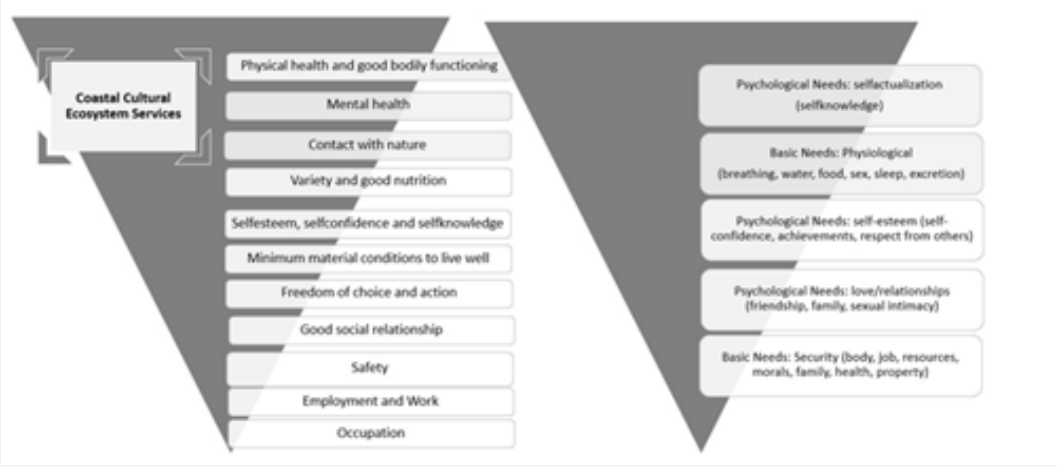

Figure 3: Human Well-Being and The Reinterpretation of Maslow's Pyramid in the Brazilian Coastal Zone with the Immaterial Contribution of Cultural Ecosystem Services.
Source: The author (2021).

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With regard to human well-being, out of 875 respondents, 81.30% considered that well-being is having physical health and good bodily functioning, 66.60% consider that it is having mental health, 54.90% that it is a connection with nature, 52.30% varied food with good nutrients, 40.80% consider it to be self-esteem, self-confidence and self-knowledge, 39.80% minimal material conditions to live well, 33.30% freedom of choice and action, 29% good social relationship, 28.60% security, 22.70% employment and work and 15.89% housing. Regarding the most chosen ecosystem services, in first place with 71.40% is biodiversity, right after climate regulation and the carbon stock is with 59% and spirituality comes next with 56.50%. These percentages call attention to the connections that emerge between spirituality (chosen later as a subjective indicator) and natural resources, such as biodiversity. These results are very interesting to reflect on the fact that they suggest an inversion of Maslow's Pyramid on the beaches where the physiological aspects are still important as a basis, but the psychological needs of self-knowledge are very evident (Figure 3). It is proven that people are urging for psychological restoration and contact with nature. Considering the environment theme with its eleven subthemes, it was decided to suggest that the indicator be a simple choice, that is, to be present or absent, as well as being searchable in a local data source, in this case the municipal government was chosen.

The clean sea and sea color indicators refer directly to bathing and sea water pollution, respectively, and it is believed that these are key factors considered by people when they go to the beaches in search of the cultural services provided by them (Bratman et al. al., 2019) [4]. The coastal vegetation indicator was also considered present or absent and from a local source. Vegetation is one of the strong aspects to consider in relation to the cultural services provided by the coastal ecosystem. It is already known that the more preserved the environment, the more well-being is present. This connection is directly proportional [10]. The coastal landscape is verified by analyzing the visual quality of the landscape, which is directly related to the local conservation of vegetation, of the beach environment in an integral way. The purity and aesthetic value of the environment, for example, absence of litter and degradation, have also been associated with beneficial restorative effects [3].

The coastal landscape has a strong relationship with the psychological restoration so sought after by people today [1,2]. Biodiversity can have positive effects on people, with visits to environments with greater (or perceived greater) species richness and abundance resulting in greater restoration [1]. Thus, biodiversity was considered as a present or absent indicator in relation to local native plant and animal species. 81% of Brazilian beach users prefer natural beaches and 19% prefer urbanized beaches. This preference for natural beaches complements the aforementioned analyses, where the search for psychological restoration and greater and more contact with coastal nature are prioritized choices by most respondents to the questionnaire. And that on natural beaches, due to greater conservation of nature, psychological restoration and the promotion of more physical and mental health, can be more evident. Regarding the theme of tourism, the subtopics are very close to each other, such as: tourism companies, tourist information, sports and food. The number of hotels, inns and spa centers is important to know the habits and behavior of tourists in relation to the number of times they visit the beach throughout the year, preferred periods of the year, length of stay on the beach and preferences for therapeutic practices. that include thalassotherapy for health care, are simply considered present or absent. Ecotourism tours, traditional fishing communities, tourist information posts and handicraft products were also considered present or absent in the analysis of the indicator. And its source is in the local management, in this case the municipal government is suggested.

These tourist activities can be related to experience tourism in which the tourist can have the opportunity to experience experiences in relation to the local culture [20]. The areas set aside for collective games on the beach sand, the bike paths on the shore, the tracks for walking and jogging on the beach, surf schools and diving schools are indicators of cultural services, given the number of experiences and experiences possible from be made available through them for both residents and tourists [13]. Currently, when the visitor who has already been to the beach and enjoyed these coastal cultural services, in his choice to return and or to be a new resident of the beach town, they are considered. The local cuisine on the beaches is plentiful and diverse throughout the entire Brazilian Coastal Zone (ZCB), so the presence or absence of restaurants serving typical local and regional dishes on the edge of the coastal municipality was considered as an indicator that refers to the food sub-theme. Cuisine represents the identity of a people and its community, through which it is possible to learn more about people's ways of life in their daily lives and in relation to their history [19]. For the Integrated Coastal Management theme, the Beach Management sub- topic was considered in relation to the following indicators: number of permanent residents, number of tourists, per capita income, age in the municipality, beach certification programs, public restrooms, public showers, public trash cans, walkways on the beach and lifeguard stations on the beach.

The number of permanent residents and the number of tourists who frequent the beaches preferred by users are indicators mainly to contemplate the preferences of users in relation to being a more or less populated beach. Considering that most users prefer natural beaches, 89.1%. And it turns out that this preference will impact on integrated coastal management. The per capita income is also verified, because, according to the questionnaire, the age group that moves to the coast in order to be a resident is younger between 31 and 40 years old than in previous years where many people sought to live on the beach after retirement and today people seek to live on the beach while they are young and active in the job market. Thus, the age indicator is also important for analyzing cultural ecosystem services and contributing to the urban and regional planning of the beaches in order to better organize the infrastructure for residents and tourists.

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With regard to beach certification programs, it appears that they need to innovate so that their actions are not just about content, but that they sensitize people about the environmental conservation of beaches and how this state of conservation impacts on everyone's life. Beach management plays a key role in overseeing, encouraging and contributing to innovation for these programs. Of course, the beaches that already have it stand out with better local environmental quality. And the certifications contribute to the formation of a local, regional and global network of beaches with good quality and environmental conservation. This certification also boosts the economy by favoring sun and beach tourism. The indicators that are directly and indirectly related to the local infrastructure are: public toilets, public showers, public trash cans, walkways on the beach and lifeguard posts on the beach. The future resident or tourist is demanding in relation to this infrastructure, because even if he appreciates nature, he is already an urbanized subject who needs learning to live a purely natural life without any infrastructure. In the case of cultural services, this infrastructure is one of the characteristics verified by people who move to the coast.

Regarding the health theme and its comprehensive health sub-theme, 10 indicators were defined, which are: No. of Public Hospital Beds in the City, No. of Basic Public Health Units in the City, No. of Public Specialty Centers in the City, No. of Public Pharmacies in the City, Number of Psychosocial Care Centers (CAPS) in the Municipality, Nº of Health Care Centers (NAS) in the Municipality, Average Years of Life Expectancy in the Coastal Municipality, Prevalence Rate of Functional Disability in Physical Mobility in the Coastal Municipality, Chronic Disease Prevalence Rate in the Coastal Municipality and Number of Public Health Gyms in the Coastal Municipality. These health indicators may contribute to integrated actions between health, tourism and the environment and may provide an expanded view of the characteristics of longevity and functional capacity of people, contributing to the planning of beach uses.

Subjective Indicators

The subjective indicators of human well-being constructed from the perspective of cultural services on the beaches were so named to facilitate the understanding that they refer to aspects that cannot be measured with specific frequency and quantity measurement units as in objective indicators, as they are indicators that represent how people are feeling and how they perceive their connection to nature when they are exposed to it. These indicators were also prioritized based on the DAPSI(W) R(M) of well-being in the Brazilian coastal zone. So that all these coastal cultural ecosystem services can be experienced with the best environmental and cultural experiences, there must be environmental conservation along the entire coastline. Special attention is needed from Integrated Coastal Management for the strategic planning of public policies that guide socio-environmental awareness actions with all entities in society, but that direct their special attention to the formation and education of children in relation to sustainability [5,11].

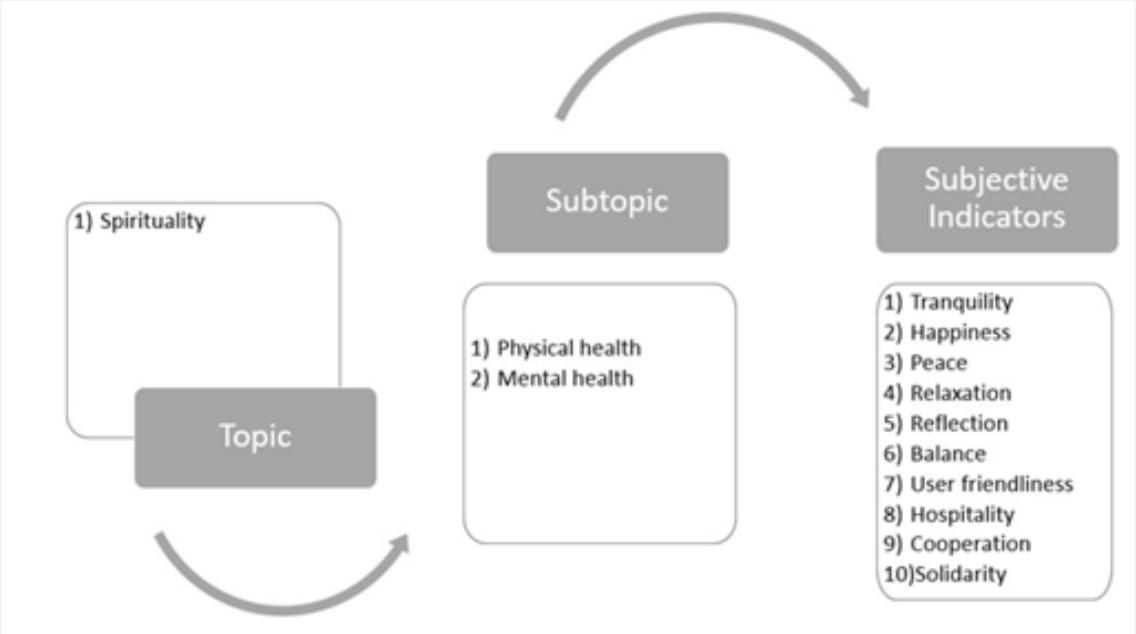

Figure 4: Subjective indicators for human well-being in the Brazilian coastal zone from the perspective of cultural ecosystem services. Source: The author (2021).

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It should be remembered that the benefits of cultural ecosystem services are mainly immaterial, such as education, leisure, recreation, historical, aesthetic and community values, a sense of belonging to the place and cultural identity. For them to be experienced in the best possible way, they must thrill, sensitize and motivate people towards a life with more meaning and personal and collective meaning [5,11]. Thus, 10 subjective indicators related to two subthemes and one theme were established, as shown in Figure 4 and Table 5. Spirituality was chosen as the theme for these indicators, as it is understood to represent the essence of human beings in relation to interactions with the immaterial aspects of nature (Bratman et al., 2019). The subtopics are divided into two and they represent physical health and mental health, both were mentioned in the questionnaire and respondent users consider them very important for human well-being. We have previously addressed the importance of mental health without ignoring physical health.

In the questionnaire on the user profile of the Brazilian coastal zone, it was asked how the user considers that the beach improves his health. And 72.30% of the answers were that it is physically and mentally that the beach improves the health of the user. Then, the answer mentally was chosen with 22.51% and 5.10% answered that it is physically. In each response alternative, what should be considered by the respondent was written, such as: for physically (body health, less muscle pain, better sleep, better body weight, etc.), for mentally (peace, relaxation, stimulates self-knowledge, more interaction social, etc) and physically and mentally without writing next to the words, but they were already described in the two previous ones.

From then on, after analyzing the percentages mentioned and their relationship with the need for psychological restoration that people seek when heading to the Brazilian coastal zone, 10 subjective indicators were chosen: tranquility, happiness, peace, relaxation, reflection, balance, user-friendliness, hospitality, cooperation and solidarity.

The ten indicators reveal again the need for psychological restoration that people seek in the contemporary world and contribute to the reinterpretation of human needs shown in Figure 3. Of the 875 users who answered the online questionnaire, 29.5% say they feel calm when they are enjoying the line between the sky and the sea on the beach, 25% say they feel peace and harmony at that moment, 16% take the opportunity to reflect while enjoying this coastal landscape, 15.1% perceive a greater connection with nature, 5.9% say they feel happiness in that moment and 8.5% say they feel a greater connection with themselves. There is a demonstration of immaterial benefits generated by contemplating the line between the sky and the sea on the beaches and those people who have experienced feelings of tranquility, peace, harmony, happiness, greater connection with nature and with themselves will certainly tend to return to the coast as a tourist, second residents or as residents of a beach town [1].

This immateriality can be felt through the senses (touch, smell, vision, hearing, taste and intuition), feelings and emotions. Coastal cultural ecosystem services (SECC) provide people with opportunities to feel the sea breeze, sea waves, sun heat, beach sand, coastal vegetation, landscape contemplation, interaction with people and with the other coastal natural assets, through experiences that contribute to the expansion of human awareness and well-being [16,17]. Thus, these indicators contribute to human well-being by expanding the spirituality they generate. Spirituality, in this case, as the macro theme can be understood as transcendental consciousness and not as a religious habit. And spirituality was already mentioned in the Millennium Ecosystem Assessment (2005) as an important aspect of promoting human well-being. In order to live spirituality or the experience of a broader or transcendental consciousness that connects us with a broader perception of ourselves, body and mental practices, physical health and mental health are encouraged, such as meditation and body awareness exercises and yoga practices.

It can already be seen that to carry out such practices it is necessary to be calmer with the use of time in a different way, without acceleration. It should be noted that being slower does not mean being less productive, on the contrary, if people expand their awareness more calmly, they are significantly less stressed and more effective in their actions (Le Plange, 2015). The subjective indicators that can be felt through coastal nature assets and coastal cultural ecosystem services (SECC) contribute to the expansion of transcendental consciousness and, consequently, to human well-being. Thus, it can be said that people move to the beaches with the intention of expanding their consciousness.

Connections to the New Objective and Subjective Indicators of Human Well-Being on Beaches

The presented objective and subjective indicators express people's relationship with the cultural services of the beaches and reveal that these have a strong impact on their decision to visit the beaches frequently or become second-residents or residents of them, considering that the results of more well-being and positive feelings and emotions are provided by cultural services and directly contribute to the psychological restoration desired by many or almost all people [16]. Elements of natural beaches differ from urbanized beaches in terms of cultural ecosystem services. On natural beaches there is more environmental conservation, there is presence of native vegetation, the sea is cleaner, there are few people around, there is more tranquility, there are rustic dwellings, there are traditional ways of life, contamination is low or non-existent and biodiversity is more conserved. In this way, it is understood that access to natural assets such as: the line between the sky and the sea, sea water, sea waves, sea breeze, coastal vegetation and the strip of sand are easier for people. people can enjoy them, and thus obtain the immaterial benefits of cultural services (Lins-De-Barros; Pinheiro, 2020) [21,22].

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The characteristics of urbanized beaches are mainly: denser number of people, increased vehicle traffic, increased number of offers in bars and restaurants, more movement and contact with people, beach fashion, music on the beach, practice of sports on the edge -sea, walks along the beach, need to see and be seen, pedestrian movement, occupied seaside land, high density of buildings, landscape with seaside buildings, increased sea pollution, shading in the strip sand and a decrease in biodiversity. In this case, it is understood that people have limited access in relation to the natural assets already mentioned in the previous paragraph. And, in some cases, where the urbanization process is very intensified, some of these natural elements no longer exist.

Thus, it appears that the immaterial benefits on urbanized beaches are impaired by the urbanization process [21,22] Lins-De-Barros; Pinheiro, 2020). Again, it is worth remembering that 89.1% of people prefer natural beaches, which contributes to the understanding that they need to be closer to natural assets to feel the immaterial benefits provided by them. For [5] cultural ecosystem services are the representation of the human essence in relation to the environment in the Coastal Zone (ZC). Its immaterial benefits contribute to the promotion of human well-being and self- knowledge. They are generated through education, leisure and cultural actions that stimulate thoughts, feelings and emotions that promote health through experiences of conviviality, hospitality, cooperation and solidarity between senescent and non- senescent beings. Specifically, connection to nature and psychological restoration were found to vary by demographics and visit characteristics, and that individuals who engaged in more appreciative and contemplative outdoor recreation achieved the highest connection to nature scores. While those who engaged in more motorized outdoor recreation had the lowest rates [1,2].

Experiencing nature directly strengthens human well-being (Martin et al., 2020). But to experience the intangible benefits of cultural ecosystem services, you need to be present in the present. That is, people need to be calmer or develop the calm, tranquility already stimulated by cultural services and there must be a face-to-face counterpart from each one so that these benefits are more and more enjoyed and verified [1] Sandifer; Sutton-Grier; Ward, 2015). The coastal landscape contributes to being present. For a magical balance between rest and activity. Everyone needs to balance their daily actions to avoid stress, as contemporary lifestyles are fast-paced and invite imbalance and loss of human well-being (Martin et al.,2020).

In this sequence of analyses, it should be noted that everything passes through the body, that is, it is the vehicle for connection with nature and with oneself. So when you are enjoying the landscape or enjoying any other cultural ecosystem service, the body is the instrument of this practice. Thus, thinking about objective and subjective indicators of the cultural services of coastal nature on the beaches is also thinking about health and bodily well-being, which contributes to people's mental health [7]. It is certainly challenging to manage beaches with high population density and beaches that are still little occupied in the Brazilian Coastal Zone (ZCB) [11] and even in such a different period as the Coronavirus pandemic. But this challenge needs to be faced in a broad way, with diagnostic and planning perspectives of a vast interdisciplinarity and with a view to a balanced use of the coastal environment with benefits for people and for the conservation of nature. In this study, objective and subjective indicators are an innovation that can be used by urban and regional planning of natural and urbanized beaches, organizing their beach and coastal space for people to use. Municipal management can periodically use these indicators with residents or tourists on the beaches of their municipalities in order to diagnose their demands at different times of the year and what are the most desired preferences for cultural services in these periods. This diagnosis will help local governance to guide the use of the beach throughout the year in order to avoid crowding.

It is very important that both local governance and integrated coastal management perceive the results of this study, which presents data from scientific research; that when people seek the beaches to live, they perform a kind of inversion in Maslow's Pyramid of Human Needs, that is, they make it clear that physiological needs are important, but that they ardently seek psychological restoration, physical revitalization and more awareness, giving paramount importance to these aspects in relation to the rest of the pyramid. The Slow Cities' well-being criteria are also related to the pursuit of self- knowledge, hospitality and awareness [18] and thus can also be related to the promotion of human well-being in the Brazilian coastal zone. Solidarity, cooperation, friendliness and hospitality are pillars of the Slow Movement philosophy [23] (Macoppi GU, Sturzenegger 2015).

The Slow Movement's values suggest a human scale, that is, it relates to everyday life, simplicity, tranquility and what Illich (1976) calls conviviality, human relationships established by respect for what is specific to each culture. It is inherent to reconcile the rhythms of cultural life with the fundamental biological rhythms for a good state of health. Integrated self-development and the possibility of realizing one's potential are recommended. It is also a way of being in life, sharing attitudes that are reconciled with the dynamics of nature, that is, they are resilient with the sustainability of development (Mayer, 2006). In the Slow Movement, good living is defined as a lifestyle for sustainability and a strategy with possibilities and opportunities for more integral health, quality of life and development. Well-being constitutes a proposal and an opportunity in constant evolution to think about another reality, in which human beings form a more harmonious whole with nature and with others, these with otherness. And, more than a material, socio-educational and health condition, well-being is a particular state of happiness in which different cultural standards prevail.

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Thus, presenting itself with a new perspective for the promotion of human well-being, health and good environmental quality [24]. The Slow Movement uses community-based education so that urban populations get to know their territory and culture better and, thus, take better care of it and promote care for themselves, the community and the environment. These educational actions are participatory and stimulate the local economy, awakening the individual and collective sense of identity and belonging [6]. Experiences mean knowledge, therefore, this community-based education process carried out by the Slow Movement is characterized by cultural and environmental experiences in places that symbolize the territory [24]. As an innovation, the contribution of coastal cultural ecosystem services to the promotion of health and well-being arises, since coastal zones are places that integrate the natural elements of the oceans, sea and man-made elements in a way that contribute to the promotion of health and environment. well-being [25]. For Foley (2015) coastal zones are typically centers of interaction that strengthen social support and better mental health according to his research, noting that the coastal zone favors low-cost physical activities, such as hiking, surfing, yoga and other sports practiced in the sand and in the sea. And that the cumulative effect of the benefits generated by them can significantly reduce, in the medium and long term, the costs spent on treatment in public health, as there will be a reduction in the symptoms of most chronic diseases for the population that lives on the coast or that enjoys this space as a visitor [26].

It is suggested that the management of the beaches include objective and subjective indicators in their work plans and that they encourage the participation of new connections such as integrating the work of tourism and health in the promotion of human well-being based on the cultural services of the beaches. beaches. This entire integrated process of planning the use of cultural services on the beaches will require significant education actions so that people understand and are sensitized by new habits, attitudes and behaviors on the beaches [27]. The effort must be collective, however it needs the awareness of each one so that the good of the beach is beneficial for himself and for everyone [28].

Conclusion

The objective and subjective indicators show that when people go to the beaches or choose to live, they consider in their choices the cultural services they offer to promote well-being, health and more awareness [29]. It can be concluded, then, that coastal cultural services, through their intangible benefits, are mediators of the path to human health and well-being. Given the above, the challenge of integrated coastal management is to seek to better understand these new indicators of cultural services so that there is integrated urban and regional planning, which is practical and didactic in relation to the use of beaches and prevents population density in periods and locations throughout the year [30]. It is suggested that new integrated public policies be considered for the promotion of well-being and comprehensive health from the perspective of coastal cultural ecosystem services. Mainly, that environmental education actions are carried out in the beach areas of the coastal zone and throughout the national territory.

This way, there is more effectiveness for people to be able to plan their vacations, their tours and their trip to the beach both as a resident and as a tourist [31]. This environmental awareness resulting from education practices must then be built participatively with different actors, both local and regional and at the national level. And considering that in the pandemic caused by the coronavirus, the virtual world was a very important and relevant means of communication, it is suggested that environmental awareness is also carried out virtually through innovative applications and virtual communication platforms for carrying out synchronous and asynchronous activities with the people and communities [32]. And attention should be paid to a frequent problem in the management of coastal resources and public policies where many of the programs and actions applied on beaches and in the coastal zone do not go through evaluation and re-evaluation processes. This fact compromises the effectiveness of the suggested planning implementation, as well as its continuity over time. Thus, it is suggested that local socio-environmental diagnoses be carried out in a participatory manner and that they be reassessed with periodicity appropriate to the situation and objectives. In addition, integrated coastal management will need different actors from the interdisciplinarity and intersectionality of environmental sciences, human sciences and health sciences for the implementation of the new objective and subjective indicators presented in this study in order to contribute to the well-being of the inhabiting populations and visitors to Brazilian beaches.

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