Towards Blue Zones: A Statistical Diagnosis and Prognosis of the Blue Zone Indicators in the UAE

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WHO states that the global life expectancy (LE) is 73 years, with chronic diseases responsible for 75% of all deaths globally. Beyond individual wellbeing, this reality places substantial burdens on healthcare systems and global economic productivity and efficiency. In contrast, Blue Zones (BZ), defined as regions with a low chronic disease prevalence and longer LE, demonstrate the possibility of remedying this global issue. According to research (Buettner & Skemp, 2016), nine indicators, including movement, nutrition, and social connectedness, are common among the five existing BZs. This research aims to design a framework, using multivariate regression models, for quantifying the impact of each BZ indicator on the LE and chronic disease prevalence in a region. This enables the identification of the region's gaps and the development of recommendations for effectively transitioning it into a BZ. The UAE is used as an illustrative example while considering wider applications. Taking a mixed-methods approach, data was gathered from public databases, surveys distributed to UAE residents, and expert interviews providing insights into nutrition, psychology, and social behavior within the region. Preliminary findings reveal that the UAE's current LE is estimated at 67 years, falling significantly short of the BZ threshold of 82 years. Regression analysis identified three critical areas for improvement: diet, movement, and social connectedness. Targeted interventions projected a 3.2-year increase in LE within a three-year interval. The outcome of this research is a structured framework that enables data-driven decision-making, enhancing public health and longevity in the UAE with potential scalability to other regions.

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