Others

Understanding Loneliness Among Rural Elderly: An Interdisciplinary Exploration of Technological Solutions Conde-Caballero, D., Luengo Polo, J., Muñoz Ortega, V.A., Naharro Gil E., Rivero Jiménez, B. & Mariano Juárez, L. *Gerontechnology* 25(s*)*

Purpose Loneliness among the elderly has become a pressing issue in Western societies, particularly affecting individuals living in rural areas with low population density who are at higher risk of social exclusion and isolation. The 21st century has been defined as the century of loneliness [1], with 13% of older European adults reporting feeling lonely "most of the time" or "all the time" [2]. Biomedical literature has provided evidence showing how loneliness both precedes and results from various health problems, becoming comparable to other risk factors such as smoking, obesity, or high cholesterol [3,4]. This presentation fits within the scope of gerontechnology by addressing loneliness among older adults in rural contexts through an interdisciplinary approach that includes technological tools alongside quantitative and qualitative methods. **Method** This presentation is based on a mixed-method research protocol combining the De Jong Gierveld Loneliness Scale [5,6] (applied to 80 participants over 65 years), semi-structured interviews (20–30 individuals), and technological devices including smartbands and Bluetooth sensors to monitor social interactions and provide design and intervention-related insights for gerontechnology applications (Figure 1). The study was conducted in a rural locality in Extremadura selected according to specific socio-demographic criteria: population under 300, more than 40% aged 65+, and population density around 10 inhabitants per square kilometer. Data were triangulated by analyzing and comparing empirical materials gathered through different methods and tools, with strict adherence to ethical standards for data protection. The presentation examines the epistemological implications of these approaches, while also highlighting the practical contributions of technology-supported data to understanding and intervening in loneliness. **Results and Discussion** The comparative analysis reveals significant epistemological tensions between methodologies. While quantitative approaches using standardized questionnaires offer precise descriptions of the numbers of people who live alone or experience feelings of loneliness, they fail to grasp the nature of the experience in its entirety—since this is grounded on social, political, emotional, and cultural underpinnings that prove elusive and difficult to quantify [7]. Qualitative interviews unveiled culturally specific meanings of loneliness that diverged substantially from standardized scale definitions, with participants distinguishing between "estar solo" (being alone) and "sentirse solo" (feeling lonely) in ways that quantitative instruments cannot capture. Technological tools provided additional actionable insights into temporal and spatial dimensions of social isolation, suggesting ways to design interventions and monitor effectiveness in real-world contexts. The study demonstrates that each methodology produces not simply different data, but fundamentally different constructions of loneliness as a research object. These findings have practical implications for technology-supported approaches to addressing loneliness among older adults.

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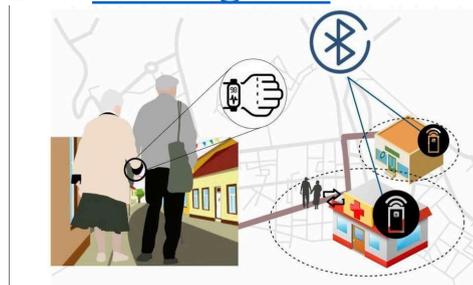
Figure 1. Data collection through smart bands and Bluetooth sensors.