

“Building belonging: architectural approaches to reducing loneliness in modern Society”

Research plan proposal



TABLE OF CONTENTS

Problem statement	03
Theoretical Framework	04
Research Question	06
Sub Questions	06
Scope	07
Methodology	08
Research output	11
Research diagram	12
References	13

PROBLEM STATEMENT

Loneliness is a hidden but persistent issue in modern society, and we live in a time when individuals rarely look out for each other. Many news reports have tragically reported instances when persons were discovered deceased in their residences many years after their deaths. For instance, the case of Bep de Bruin gained national prominence in the Netherlands, where, as reported by Hakkenberg (2016), she had been deceased in her home for a decade before being discovered.

While loneliness is frequently associated with the elderly, research shows that young people are increasingly affected. According to De Staat van Volksgezondheid en Zorg (2023), 49.4% of those aged 18 to 34 report feeling lonely, a higher percentage than among people aged 35 to 49 and those aged 50 to 64 (both 47%).

A variety of factors contribute to this growing problem. Economic pressures, such as soaring housing prices, force many young adults to stay at home longer or live alone in spaces that may feel isolating. The fast-paced nature of modern life can also be overwhelming, with constant demands for productivity and success leaving little room for meaningful social interaction. Additionally, mental health challenges are on the rise, making it harder for some individuals to maintain or develop social connections.

Living alone has a particularly strong connection to loneliness. In the Netherlands, approximately 39% (3.3 million) of all 8.4 million

households consist of just one person (Volksgezondheid en Zorg, 2024). Many of these individuals reside in homes that are too large for one person, contributing to a lack of social cohesion and integration within their communities. Social isolation can become a vicious cycle, where those feeling lonely find it increasingly difficult to break out of their isolation.

This issue of social separation affects people of all ages, causing mental health issues, decreased well-being, and, in extreme situations, terrible outcomes in which people die unnoticed for long periods of time. Addressing loneliness is vital for developing a more inclusive and supportive society, where individuals of all ages can live in circumstances that foster meaningful interactions and community engagement.

Addressing loneliness demands more than simply social initiatives; it requires a reassessment of how we build living spaces. Architecture has a significant impact on social interaction and community building. Isolation can be decreased by developing environments that encourage connection, such as co-housing communities or multigenerational living arrangements. Housing that has been thoughtfully constructed can help people create meaningful relationships by bridging the gap between their private and public lives. In this sense, architecture becomes an effective tool for reducing loneliness and building a more connected, supportive society.

THEORETICAL FRAMEWORK

Loneliness, a multidimensional phenomenon, has been studied by sociologists, psychologists, anthropologists, and urban designers alike. According to anthropologists Franklin and Tranter (2021), one of the defining aspects of loneliness is a perceived absence of belonging. Belonging is inherently social, grounded in culture, beliefs, and personal preferences, but also shaped by place, generation, and residential arrangements. However, loneliness is primarily a subjective experience that varies from person to person, making it challenging to define and quantify.

Different individuals have varied social needs; some may find contentment in a single deep bond, while others may require multiple relationships to feel socially fulfilled. Mellor et al. (2008) a professor of Psychology, underscore the importance of considering variables such as personality and psychotropic factors when addressing loneliness, cautioning that not all cultures associate the need for belonging with close social relationships.

Furthermore, urban design and architecture have been recognized as key contributors to the rise of loneliness, particularly following the modernization and restructuring of cities in the 1950s and 1960s. Franklin and Tranter (2021) note that industrial villages, which once fostered close-knit communities, gave way to high-rise buildings and urban landscapes designed around individualism. The works of influential architects Alison and Peter Smithson further reflect this trend, as they famously argued that the

concept of a balanced, self-contained community was "both theoretically untenable and practically wasteful" (Bauman, 1992). According to their vision, the untethered individual, rather than the community, became the new social unit, and little attention was given to the creation of public spaces that might nurture communal relationships.

This concept, once relevant but now outdated, has been relied upon for too long, leading to the prevalence of anonymous concrete buildings commonly seen in cities across the Netherlands.

This historical shift in urban design continues to have ramifications in modern cities like those in the Netherlands, where the demand for housing is rising and high-rise buildings are increasingly prevalent. While high-density urban living might meet the logistical need for more housing, it often fails to address social needs.

Urban planners and designers have recognized the potential to mitigate loneliness by creating spaces that promote social interaction. However, as noted by two scholars, a psychologist and social scientist and an architect and urban planner, Cassis Heu & Brennecke, (2023) not all experiences of loneliness can be solved through the creation of semi-public spaces for interaction.

People do not always think in the same way that the design was conceived; it is impossible to create a design that everyone will follow in the same manner. This is especially true for the

Dutch, who tend to resist anything that feels forced upon them, and rightly so.

Privacy remains crucial for many individuals, and it is clear that loneliness cannot simply be "designed away."

Thus, loneliness can be approached from multiple perspectives, each addressing different aspects of the issue. While it is rooted in sociological and anthropological factors, urban designers and architects must also consider the growing numbers of people experiencing loneliness and create spaces that balance the need for privacy with opportunities for connection. In sum, the solution to loneliness is not straightforward, requiring an interdisciplinary approach that accounts for both the emotional and environmental dimensions of belonging.

RESEARCH QUESTIONS

Main research question

How can the living environment reduce loneliness and social isolation while enhancing social connectivity across all age groups who live alone, for example in the Tarwewijk in Rotterdam?

Sub-Questions:

How can architectural features in residential buildings be designed or adapted to reduce social isolation and foster inclusivity across generations, and how can these principles be implemented in a spatial floor plan?

How can the spatial design of residential buildings be structured to meet the evolving social needs of aging individuals living alone, while preventing isolation across different stages of life?

How can the layout and configuration of shared spaces in Tarwewijk's residential buildings be crafted to enhance intergenerational interaction and mitigate social isolation?

Definitions

Social isolation and Loneliness

According to Holt-Lunstad (2020) Social isolation and loneliness both refer to aspects of social disconnection but differ in meaning. Social isolation is an objective condition characterized by having few or infrequent social interactions. In contrast, loneliness is a subjective, distressing experience that arises from a perceived gap between

the social connections one has and those one desires.

Public spaces and private spaces

As defined by Jackson (2001) Public space is "a place accessible to all citizens, for their use and enjoyment". In contrast, a private place is open to those permitted by law or custom.

Social connectivity

Social connection refers to, as stated by the U.S. Centers for Disease Control and Prevention (2024), the size and diversity of a person's social network, its roles, the functions these relationships serve, and their positive or negative qualities. On the other hand, social connectedness reflects the extent to which one's social needs are met. It involves having the desired number, quality, and variety of relationships, and feeling a sense of belonging, support, and care from those connections.

Architectural features

According to Law Insider (2024), architectural features are prominent or characteristic elements that are part of a building and define the design. These elements can be a window or columns. In this study, architectural features and design elements will be used interchangeably to refer to the same concept.

Intergenerational interaction

As defined by Peters et al. (2021), intergenerational interaction is the process of individuals from different generations coming together in a

purposeful and mutually beneficial way, fostering meaningful connections between age groups, from children to the elderly. This interaction encourages the exchange of knowledge, experiences, and support across generations, strengthening social bonds and promoting a greater sense of community.

influence on reducing loneliness and promoting social cohesion.

Scope

This research examines how architectural design can reduce loneliness and enhance social connectivity across all age groups. It focuses on how the built environment can foster meaningful interactions through features such as shared spaces, flexible layouts, and proximity to community resources like parks and public plazas.

The study will assess both public and private spaces, looking at how they impact social isolation in children, adults, and the elderly. It will explore how architecture can evolve to meet changing social needs over a lifetime, incorporating successful case studies and sustainable design principles.

Excluded from this research are non-architectural solutions like psychological interventions, specialized environments (e.g., prisons, hospitals), and a deep focus on smart home technology or economic policy. The aim is to concentrate on physical design elements and their direct

METHODOLOGY

Using a mixed method, this study will investigate how the living environment, from example in de Tarwewijk, Rotterdam, can be designed to reduce loneliness and enhance social connectivity among different age groups within a housing complex.

Data Collection Methods

Literature review

Objective

To explore existing research on loneliness, social isolation, and architectural design in order to build a strong theoretical foundation. This will highlight effective design strategies and their influence on fostering social connectivity.

Keywords

Loneliness – Social connectivity – Architectural design – Social isolation – Belonging

Approach

Begin by using databases like Google Scholar and JSTOR to locate relevant studies and articles. Organize the findings by categorizing them based on themes such as relevance, peer-reviewed status, scale of the research, and level of importance. Summarize key findings and insights, using diagrams where applicable, to highlight design elements that impact social isolation and loneliness. Finally, identify gaps in the existing literature or define the scope of research to reveal areas where further investigation or innovation is needed.

Qualitative Data:

Interviews

Objective

To gather personal insights from the target group on their social interactions and the role of their living environment in these interactions.

Approach

Create open-ended questions to explore how residents engage with their neighbours and the impact of building design on social interaction. Recruit a diverse group of participants through flyers, community boards, or housing associations. Conduct interviews in person or online, recording conversations (with permission) and taking notes. Afterward, analyze the responses to identify common themes, such as communal space use or mobility issues, and categorize insights on loneliness and social connectivity.

Quantitative Data

Observational studies

Objective

To observe how people use spaces in their homes and communal areas to assess patterns of social interaction and places for improvement.

Approach

The goal is to observe how residents use spaces in their homes and communal areas to identify social interaction patterns and potential areas for improvement. Begin by

determining specific behaviors to observe, such as gathering spots and how different age groups use spaces. Select key areas within the housing complex for observation, like entrances or communal gardens, and visit these spots at different times. Record how residents use these spaces and how long they stay. Finally, analyze the data to identify trends, using charts or graphs to highlight areas of high or low activity.

Site Analysis and Mapping

Objective

To assess the spatial layout of Tarwewijk's housing complex and its potential for promoting social interaction.

Approach

Begin by obtaining maps of the area, including building plans and public spaces, from local sources or online. Visit the site to observe how communal and private spaces are used, particularly parks, benches, and courtyards. Create your own map marking key areas, such as private, public, and semi-public spaces, and assess how accessible these areas are, especially for the elderly or those with mobility issues. Evaluate opportunities for improvement, like adding seating or better lighting, to enhance social interaction in these areas.

Case Study Analysis

Objective

To learn from successful examples of how design can reduce loneliness and promote social connections.

Approach

Identify housing projects from other cities or countries that focus on reducing loneliness, such as cohousing communities or age-friendly neighborhoods. Gather information from articles, reports, or websites about these projects, focusing on design features like shared spaces and their impact on residents' social lives. Reflect on how the lessons learned from these examples can be applied or adapted to Tarwewijk to foster social connectivity in the housing complex.

Anthropological Research

Objective

To understand how residents' social habits and interactions are shaped by their built environment.

Approach

Review anthropological studies on urban spaces and community behavior, especially those that focus on how space affects social connectivity. Use insights from these studies to interpret how residents in Tarwewijk might interact with their environment, considering factors like proximity to shared spaces and cultural attitudes toward privacy and community. Apply these insights to propose design recommendations that cater to social habits, such as creating smaller, more intimate gathering areas for elderly residents to foster interaction.

Ethical Considerations

The study will obtain informed consent from all participants, ensuring they understand the research purpose and their rights. Confidentiality will be

maintained throughout the study, and ethical approval will be sought from the relevant institutional review board.

Limitations

Potential limitations of this study include the sample size, response bias, and the challenges associated with generalizing findings beyond the Tarwewijk context. Additionally, external factors affecting social dynamics may influence residents' experiences of loneliness and connectivity.

Research output

The goal of this research is to gather an overview of design guidelines that either contribute to or should be avoided in relation to loneliness and social isolation. These guidelines can be categorized based on different scales:

enhancing social connectivity and reducing feelings of isolation within the community.

1. Interior Scale

This pertains to the home itself, which is the private domain of the resident. Design elements at this scale should promote comfort and facilitate social interactions among household members and visitors.

2. Building Scale

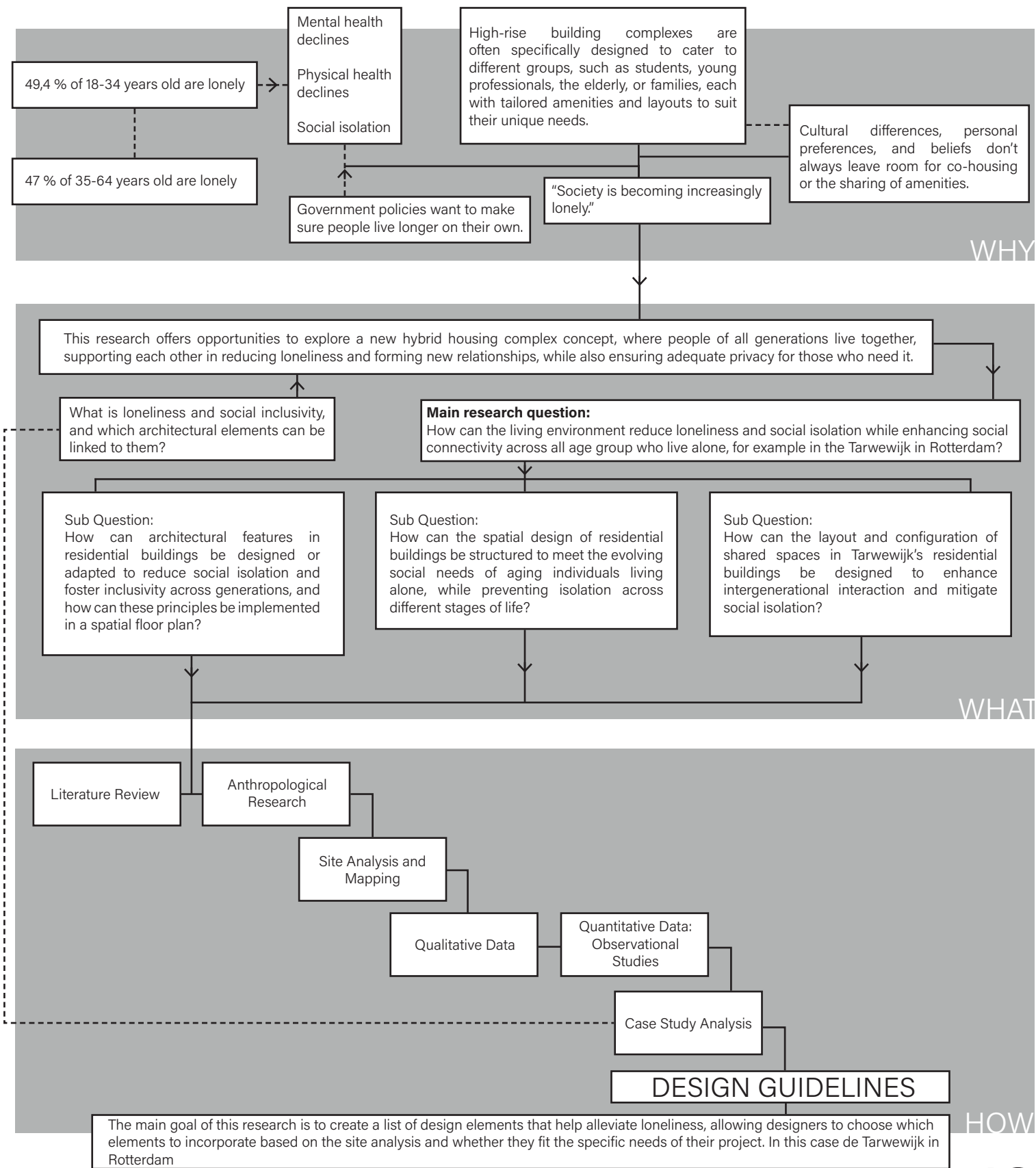
This scale refers to the location where private and public spaces often intersect. Design guidelines here should focus on creating environments that encourage social engagement and interaction among residents, such as communal areas or shared facilities.

3. Surrounding Environment Scale

This encompasses the often public spaces outside the building, which should also be designed with the intention of reducing loneliness and social isolation. Effective public space design can foster community interaction and provide opportunities for socializing.

Once these general guidelines are organized according to their importance and scale, they can be integrated with an analysis of the Tarwewijk location. This combination will lead to the development of a cohesive design strategy aimed at

RESEARCH DIAGRAM



REFERENCES

Bauman, Z. (1992). *Intimations of Postmodernity*. Routledge.

Cassis Heu, L., & Brennecke, T. (2023). *By yourself, yet not alone: Making space for loneliness*. Retrieved from <https://journals-sagepub-com.tudelft.idm.oclc.org/doi/10.1177/00420980231169669>

De Staat van Volksgezondheid en Zorg. (2023, 06 20). *Eenzaamheid: Volwassenen*. Retrieved from Kerncijfers: <https://www.staatvenz.nl/kerncijfers/eenzaamheid>

Franklin, A., & Tranter, B. (2021). *Loneliness and the cultural, spatial, temporal and generational bases of belonging*. Retrieved 2024, from <https://www-tandfonline-com.tudelft.idm.oclc.org/doi/full/10.1080/00049530.2020.1837007#abstract>

Hakkenberg, D. (2016, 03 04). *Waardig afscheid voor vrouw die 10 jaar dood in huis lag*. Algemeen Dagblad. Retrieved from <https://www.ad.nl/rotterdam/waardig-afschied-voor-vrouw-die-10-jaar-dood-in-huis-lag~a98d9d7c/?referrer=https%3A%2F%2Fwww.google.com%2F>

Holt-Lunstad, J. (2020). *Social Isolation And Health*. Robert Wood Johnson Foundation.

Jackson, J. (2001). *Classic Readings in Urban Planning*.

Law Insider. (2024). *Law Insider*. Retrieved from Architectural Features: <https://www.lawinsider.com/dictionary/architectural-feature>

Mellor, D., Stokes, M., Firth, L., Hayashi, Y., & Cummins, R. (2008). *Need for belonging, relationship satisfaction, loneliness, and life satisfaction*. *Personality and individual differences*, 213-2018.

Nieto Fernandez, F., & Rubio Hernandez, R. (2021). *Loneliness and the Built Environment*. *Datutop Occasional Papers*; No. 40, 109-133.

Norberg-Schultz, C. (1991). *Genius Loci*. Rizzoli.

Peters, R., Ee, N., A.Ward, S., Kenning, G., Radford, K., Goldwater, M., . . . Rockwood, K. (2021, January 28). *Intergenerational Programmes bringing together community dwelling non-familial older adults and children: A Systematic Review*. *National Library of Medicine*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8439135/>

Twitchell Hall, E. (1966). *The hidden dimension*. Garden City, New York, The united states of america: Anchor-books.

U.S. Centers for Disease Control and prevention. (2024). *Social connection*. Retrieved from CDC: <https://www.cdc.gov/social-connectedness/about/index.html>

Volksgezondheid en zorg. (2024, Augustus 28). *huishoudens*. Retrieved from bevolking: <https://www.vzinfo.nl/bevolking/huishoudens#:~:text=Ongeveer%2040%25%20van%20alle%20huishoudens,huishoudens%20bestaat%20uit%20%C3%A9%20persoon.>

World Health Organization. (2007). *Global age-friendly cities: a guide*. Retrieved from <https://www.who.int/publications/i/item/9789241547307>