



## IN-HABIT – INclusive Health And wellBeing In small and medium size ciTies

# D7.5 – Ex-post IHW impact assessment report

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Page	Description
21-23	Clarifications on Participatory Action Research (PAR)
29	Figure 2.A, additional information included in the description
31	Figure 2.B, additional information included in the description
33	Figure 2.C, additional information included in the description
38-39	Inclusion of summary of results for Cordoba
47	Figure 3.A, additional information included in the description
49	Figure 3.B, additional information included in the description
52	Figure 3.C, additional information included in the description
53	Figure 3.D, additional information included in the description
55	Figure 3.E, additional information included in the description
68	Inclusion of summary of results for Riga
74	Figure 4.A, additional information included in the description
76	Figure 4.B, additional information included in the description
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Page	Description
82	Figure 4.D, additional information included in the description
93	Inclusion of summary of results for Lucca
99	Figure 5.A, additional information included in the description
102	Figure 5.B, additional information included in the description
104	Figure 5.C, additional information included in the description
106	Figure 5.D, additional information included in the description
108	Figure 5.E, additional information included in the description
120-121	Inclusion of a summary of results for Nitra
126-127	Extension of policy discussion
127-131	Extension of concluding remarks



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## LIST OF ACRONYMS

CA	Consortium Agreement
DECO	Dissemination, Exploitation, Communication & Outreach
DC	Dissemination & Communication
EC	European Commission
EU	European Union
GA	Grant Agreement
GDEI	Gender, Diversity, Equity, Inclusion
H2020	Horizon 2020 projects
IHW	Inclusive Health and Wellbeing
KLC	Key Local Contact
LCA	Local Community Activator
PC	Project Coordinator
PP	Project Partner
RTD	Research, technology and development
SMSCs	Small and medium sized cities
WP	Work Package



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## PARTNERS' SHORT NAMES

AVUE	Neighbourhood Association of Las Palmeras
BOT	Book on a Tree
BSC	Baltic Studies Centre
B4B	Bridge for Billions
CCA	Collegio Carlo Alberto
CORD	Ayuntamiento de Córdoba
DFC	Design for Change Spain
HIDE	Hidepark Civic Association Triptych
KQ	Kalneciema Quarter
LABORELEC	Engie Laborelec
LCREA	Lucca Crea
LUCCA	Comune di Lucca
NITRA	Mesto Nitra
PUJ	Pontificia Universidad Javeriana
RIGA	Riga Planning Region
SUA	Slovak University of Agriculture in Nitra
TSR	Tesseræ



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UCO	University of Cordoba
UNIPI	University of Pisa
UREAD	University of Reading
UNITO	University of Turin
CCA	Collegio Carlo Alberto



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## FOREWORD

The IN-HABIT project – *INclusive Health And wellBeing In small and medium size ciTies* – has been an ambitious and collaborative effort to rethink how health and well-being can be fostered in small and medium-sized European cities. Over the course of five years, the project has sought to demonstrate that innovation for inclusive well-being does not only belong to large metropolitan areas, but can be successfully designed, tested, and scaled in smaller urban contexts that are often closer to the everyday realities of citizens.

This Deliverable D7.5 presents the **ex-post impact assessment of Inclusive Health and Wellbeing (IHW)**, capturing the outcomes of the interventions piloted in **Córdoba, Riga, Lucca, and Nitra**. Each of these cities represents a distinct context: from Córdoba's focus on tackling segregation and stigma in Las Palmeras, to Riga's transformation of the historic Āgenskalns market, to Lucca's pioneering vision of a Human–Animal smart city, and to Nitra's development of a multifunctional urban landscape to strengthen social inclusion. Taken together, these diverse experiences show the breadth of possibilities for embedding health and well-being in urban strategies.

The evaluation presented here builds on a **multi-phase assessment framework** developed throughout the project: from baseline studies (ex-ante), through ongoing monitoring, to this ex-post stage. It integrates **quantitative surveys, qualitative focus groups, and narrative storytelling** to assess impacts across five dimensions: social well-being, spatial and environmental quality, healthy lifestyles, economic well-being, and inclusiveness with respect to gender, diversity, equity, and inclusion (GDEI). This holistic approach reflects the conviction that well-being is not only an individual condition but also a collective resource, co-created through relationships, shared spaces, and community trust.

What emerges clearly from this final assessment is that **process matters as much as outcomes**. The co-design of solutions with residents and stakeholders has proven crucial in ensuring that



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interventions are accepted, valued, and sustained. Across all cities, the active involvement of local communities has generated improvements that go beyond the physical transformation of spaces. Residents report strengthened social ties, renewed confidence in their neighbourhoods, and greater visibility of groups that were previously marginalised. Even when statistical differences between intervention and control groups remain modest, the qualitative evidence underlines the symbolic and practical value of being part of a shared project for change.

The insights gathered in this report also speak to broader European debates on **urban resilience, social justice, and the green transition**. They show how relatively small-scale interventions, when implemented inclusively, can address multiple challenges simultaneously: promoting healthier lifestyles, enhancing social cohesion, and reducing inequalities. They further suggest that small and medium-sized cities, which host the majority of Europe's population, are uniquely positioned to pioneer approaches that are close to citizens and sensitive to local identities.

As the IN-HABIT project reaches its conclusion, Deliverable D7.5 stands as both a record of what has been achieved and a resource for what comes next. Policymakers, practitioners, and communities can draw on the lessons documented here to **design urban solutions that place inclusiveness and well-being at their core**. We hope that the results presented will inspire further experimentation, scaling, and adaptation in other European contexts, proving that the pursuit of inclusive health and well-being is not only desirable but also practical, impactful, and within reach.



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## EXECUTIVE SUMMARY

The IN-HABIT project (INclusive Health And wellBeing In small and medium size ciTies) was conceived to demonstrate how inclusive, place-based innovation can enhance Inclusive Health and Wellbeing (IHW) in small and medium-sized European cities (SMSCs). Over five years, the project designed, implemented, and evaluated Visionary and Integrated Solutions (VIS) in four diverse urban contexts—Córdoba (Spain), Riga (Latvia), Lucca (Italy), and Nitra (Slovakia)—each facing distinct socio-spatial challenges but united by the need to foster healthier, more inclusive urban environments.

Deliverable D7.5 presents the **ex-post impact assessment**, representing the final stage of a comprehensive evaluation framework that included baseline (ex-ante) analysis, ongoing monitoring, and long-term impact measurement. The assessment adopts a mixed-methods approach, combining quantitative surveys administered in 2025 with qualitative focus groups and narrative storytelling. Impacts are examined across five interconnected dimensions of IHW: social well-being, spatial and environmental quality, healthy lifestyles, economic well-being, and gender, diversity, equity, and inclusion (GDEI).

### Conceptual and Methodological Framework

IN-HABIT conceptualises health and well-being not as individual outcomes alone, but as **co-created collective resources**, shaped by social relations, shared spaces, and institutional contexts. Drawing on WHO and OECD frameworks, the project integrates both subjective and objective dimensions of well-being, acknowledging hedonic aspects (such as perceived happiness and life satisfaction) alongside eudaimonic dimensions (such as purpose, agency, and social connectedness).

The evaluation framework is explicitly **place-sensitive**. While a shared methodology enables cross-city comparison, indicators and interpretations are adapted to local conditions, recognising



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that SMSCs face structural constraints and opportunities distinct from large metropolitan areas. Participatory processes—co-design workshops, community engagement, and iterative feedback—are not treated merely as implementation tools but as integral components influencing outcomes and sustainability.

## City-Level Results

### Córdoba (Las Palmeras)

The Córdoba pilot targeted one of the city’s most disadvantaged neighbourhoods, characterised by spatial segregation, socio-economic deprivation, and territorial stigma. VIS focused on regenerating patios and public spaces through nature-based and cultural interventions. Ex-post results show **persistent structural inequalities**: residents in Las Palmeras continue to face significantly lower access to green areas, sports facilities, and healthy food compared to control groups, and economic vulnerability remains high. However, qualitative evidence reveals substantial gains in **social cohesion, empowerment, and collective identity**. Residents report increased pride in their neighbourhood, stronger interpersonal ties, and reduced stigma, underscoring the importance of process-driven impacts even where quantitative differences remain modest.

### Riga (Āgenskalns)

Riga displays the most consistent and multidimensional positive outcomes. The regeneration of the historic Āgenskalns market and surrounding public spaces has significantly improved accessibility, cultural participation, and environmental quality. Intervention residents report higher physical activity levels, better perceived health, lower unemployment, and more positive financial self-assessments than control groups. Green spaces are perceived as better maintained, more inclusive, and more frequently used. Qualitative findings confirm that the market has evolved into a vibrant social and cultural hub, fostering intergenerational interaction



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and community ownership. Riga demonstrates how **integrated physical regeneration combined with participatory governance** can yield strong IHW outcomes.

### Lucca (Human–Animal Smart City)

Lucca’s pilot adopted a city-wide, cross-cutting approach centred on human–animal relations as a driver of mental health and social well-being. Quantitative results indicate **moderate but coherent improvements** in the use and appreciation of green spaces, active mobility, and everyday physical activity, with differences between intervention and control groups generally smaller than in Riga. Qualitative evidence, however, highlights the symbolic and relational value of animal-inclusive spaces, which have strengthened intergenerational dialogue, reduced social isolation, and enhanced emotional well-being—particularly among older adults. In Lucca, VIS function primarily as **optimisation tools**, reinforcing already favourable urban conditions rather than producing radical structural change.

### Nitra (Dražovce and Cycle Route)

The Nitra pilot focused on a multifunctional green infrastructure along a major cycling corridor, aiming to promote healthier lifestyles and social inclusion, particularly for migrants and ethnic minorities. Results show **stronger community engagement** in intervention areas, including more frequent volunteering, problem-solving, and informal social interactions. Perceived safety improves in specific contexts, such as leaving vehicles unattended and using green areas, though concerns about road safety and access to social and health services persist. While physical mobility outcomes are positive, trust in local authorities remains comparatively low. Nitra illustrates the potential of open-source, flexible urban landscapes to foster social cohesion, while also highlighting the limits of spatial interventions in addressing institutional trust.

### Cross-City Insights

Several overarching lessons emerge from the ex-post assessment:



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- **Accessibility and Mobility:** All cities record improvements in walkability, cycling, and access to public spaces, with the strongest gains in Riga and Lucca. Structural barriers remain most pronounced in highly deprived contexts such as Córdoba.
- **Social Well-being and Safety:** Perceptions of safety improve modestly across all pilots, while social cohesion increases most where co-creation and long-term engagement are strongest.
- **Economic Well-being:** Economic impacts are uneven. While Riga shows clear positive outcomes, other cities highlight the need for complementary labour-market and social policies.
- **Green Spaces:** Investments in quality, inclusiveness, and maintenance of green spaces generate consistent benefits, particularly when embedded in broader social and cultural strategies.
- **GDEI:** Women, older adults, persons with disabilities, ethnic minorities, and LGBTIQ+ individuals often report lower safety and accessibility. Targeted, inclusive design and participation can mitigate—but not fully eliminate—these disparities.

## Conclusions and Policy Implications

The IN-HABIT ex-post evaluation confirms that **inclusive, co-created urban interventions can generate meaningful improvements in Inclusive Health and Wellbeing**, even when implemented at modest scale. Outcomes vary by context, underscoring that VIS are not universal solutions but **context-dependent tools** whose effectiveness is shaped by local socio-economic conditions, governance capacity, and community engagement.

For European policymakers and urban practitioners, the findings highlight the strategic importance of small and medium-sized cities as laboratories for inclusive innovation. To maximise impact, VIS should be embedded within **multi-level policy frameworks**, aligned with the EU Pillar of Social Rights, the European Green Deal, and the New European Bauhaus. Crucially, physical regeneration must be complemented by social, economic, and institutional



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measures if environmental improvements are to translate into equitable and lasting well-being gains.

Deliverable D7.5 thus stands as both an evidence base and a forward-looking resource, demonstrating that inclusive health and well-being in SMSCs is achievable, scalable, and central to Europe's urban future.



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# 1 The IN-HABIT Context and the evaluation framework

## 1.1 The context

The IN-HABIT project has been developed in four European peripheral small and medium-sized cities (SMSCs) - **Cordoba (Spain)**, **Riga (Latvia)**, **Lucca (Italy)** and **Nitra (Slovakia)** and is focused on the testing of visionary and integrated solutions (VIS) to foster Inclusive Health and Well-being (IHW) with a focus on gender, equity, diversity and inclusion (GDEI).

The conceptual approach of the project focuses on inclusivity, health, and well-being (IHW) in urban areas, viewing IHW as a shared, co-created resource rather than just individual well-being. It treats IHW as a co-created common pool resource (CCPR) — partly like a private good (vulnerable to depletion if not maintained by the community) and partly like a public good (benefiting everyone, even newcomers). The approach highlights that vulnerable and underserved groups often have unmet needs in this system.

Each of the four IN-HABIT pilot cities differs in size, demographics, status within their national settlement hierarchies, and the specific health and well-being challenges they face. Additionally, each city focuses on a distinct urban scale for its intervention and collaborates with different vulnerable population groups:

- In Córdoba, the focus is on the entire disadvantaged neighbourhood of Las Palmeras, which suffers from segregation, a concentration of socio-economic and environmental issues, and territorial stigma; its spatial isolation reinforces cycles of disadvantage and limits social mobility.



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- In contrast, Riga’s intervention is much more spatially contained, centering on the regeneration and management of a single building, while considering the broader impact on the surrounding district.
- In Lucca, the project takes a city-wide, cross-cutting approach, aiming to integrate non-human animals into strategies for IHW. This involves both developing the concept and evidence for Animal-based Nature-Based Solutions (A-NBS) and physically restructuring urban spaces to create a green infrastructure linking the historic center with peripheral areas.
- In Nitra, spatial planning is key, with a focus on designing an open, flexible green infrastructure for a peripheral part of the city and ensuring its integration into the broader urban fabric.

IN-HABIT pilots are guided by VIS for IHW—Visionary, Integrated, and Inclusive strategies that enhance health and well-being by using undervalued local resources (e.g., culture, food, environment, art). They combine social and cultural ("soft") actions with infrastructural and digital ("hard") solutions, and follow a gender, diversity, equity, and inclusion approach.

While the four cities and their target groups differ, all pilots apply a common conceptual and methodological framework. This shared approach enabled cross-context experimentation, highlighted complementarities, and provides a diverse set of tested solutions to inform other small and medium-sized cities in Europe and beyond.

## 1.2 The evaluation

IN-HABIT has developed a co-created Impact Assessment Framework based on an interdisciplinary, multidimensional approach that combines both top-down and bottom-up methods to evaluate health and well-being. The framework recognizes that well-being is shaped by a mix of individual, social, and environmental factors—a view aligned with the WHO and OECD. It draws on the WHO’s Social Determinants of Health model, which



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highlights how people's health is influenced by their life conditions and the broader systems and policies affecting them.

The IN-HABIT framework also incorporates the subjective experience of well-being, drawing on both hedonic and eudaimonic perspectives. Hedonic well-being is associated with constructs such as happiness, positive affect, and life satisfaction, while eudaimonic well-being focuses on positive psychological functioning and human development (Diener, 1984; Orden & Bradburn, 1969; Ryff, 1989; Waterman, 1993). Subjective well-being is thus a multifaceted construct that includes general psychological well-being, life satisfaction, and the absence of mental distress (Kessler et al., 2003; Topp et al., 2015).

The following five dimensions form the cornerstone of the IN-HABIT assessment of IHW. By aligning assessment and intervention strategies with local conditions, the VIS can significantly enhance the effectiveness of health and well-being initiatives, ultimately leading to more resilient and thriving communities.

- **Subjective Well-being:** This dimension considers personal perceptions of psychological well-being, happiness and life satisfaction.
- **Spatial and Environmental Well-being:** This includes the quality of physical surroundings, green spaces, and environmental health.
- **Social Well-being:** This addresses social cohesion, community engagement, and social support networks.
- **Healthy Lifestyles:** This dimension focuses on behaviours such as physical activity, diet, and substance use.
- **Economic Well-being:** This encompasses income levels, employment status, and economic security.



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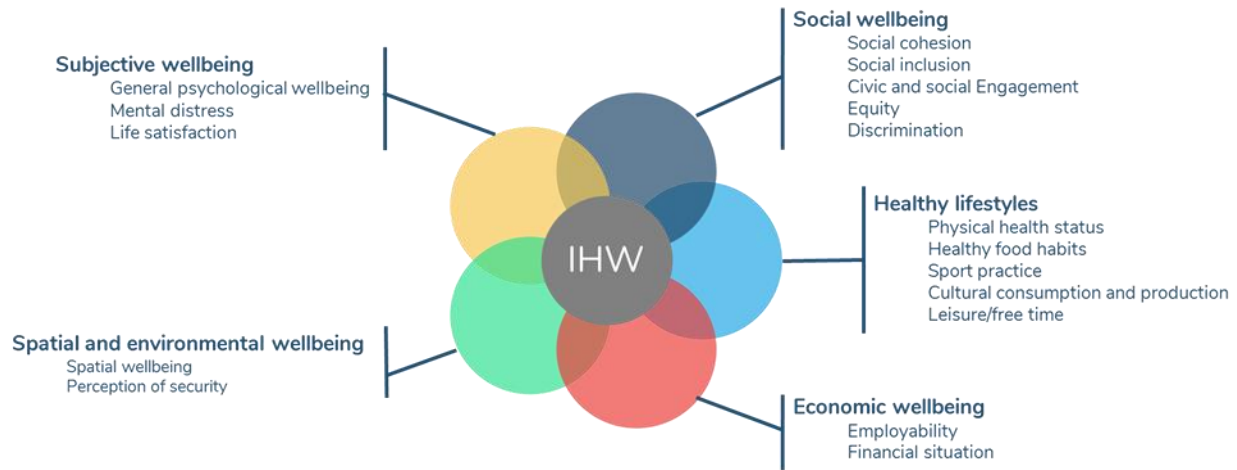


Figure 1.1.A The INHABIT impact evaluation framework

*IN-HABIT adopted a range of participatory and co-design approaches aimed at engaging local stakeholders, residents, and practitioners in the design and implementation of VIS. These activities included co-design workshops, focus groups, and iterative feedback moments with local actors, which informed the tailoring of interventions to local needs and contexts. Participation was therefore an integral component of the intervention logic and implementation process.*

PAR requires structured cycles of co-research, systematic reflexivity, and collaborative data analysis involving participants as co-researchers throughout the research process. While IN-HABIT incorporated participatory elements, the project’s primary objective in this deliverable was evaluative, focusing on the assessment of impacts rather than on the co-production of knowledge through iterative action–reflection cycles. Therefore, WP7 did not implement Participatory Action Research (PAR) as a full methodological framework.

*Nevertheless, participatory activities played a meaningful role in shaping the interventions and in contextualising the interpretation of results. Insights emerging from local engagement were used to adapt VIS during implementation and to interpret quantitative*



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*findings, particularly by identifying contextual enablers and constraints. This approach strengthens the validity of the assessment while maintaining methodological clarity regarding the distinction between participatory engagement and PAR.*

This methodology emphasizes that health and well-being are co-created resources, shaped by both community dynamics and the local environment, rather than being solely individual concerns. As a result, assessment metrics must be adaptable to the unique characteristics of each urban context—especially in small and medium-sized cities, which often face distinct challenges not addressed by larger city models.

Results produced on IHW of target beneficiaries are measured through both secondary and primary data collection before, during and after the implementation of the solutions. The overall evaluation process was developed in three phases of quali-quantitative data collection and analysis: ex-ante evaluation (Phase 1 – carried out by ISIM), ongoing evaluation (Phase 2 - carried out by UNITO-CCA), ex-post evaluation (Phase 3 - carried out by UNITO-CCA). Phase 1 has been thoroughly described in deliverable D7.3 “Baseline study on IHW”, prepared by ISIM partner. Phase 2 has been implemented by the UNITO-CCA team and has been the object of deliverables D7.7 and D7.4. Phase 3 has been conducted by the UNITO-CCA team and is the object of the present deliverable D7.5.

The ex-post study includes quali-quantitative data in order to combine both quantitative and qualitative evaluation tools and techniques to better measure impacts on IHW. The ex-post quantitative evaluation is based on data collected through surveys in Spring 2025. A general ex-post survey on IHW was conducted in each city on line and in person, involving two groups of participants (people living or attending the intervention areas and people not living nor attending such areas). The survey was administered by local community activators with the help of local organizations and institutions working in the selected city areas.<sup>1</sup>

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<sup>1</sup> Full details on the methodology implemented for the quantitative analysis are reported in the Appendix of the document.



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The ex-post qualitative research includes the following activities carried out by the city partners:

- focus groups involving people selected among those who lived in/attended the intervention areas for the whole duration of the project.
- content analysis from storytelling aimed at exploring changes on IHW of local inhabitants through narrative patterns. Personal stories are collected by local community activators in the local language and analyzed by the city partners.

## 2 Cordoba

### 2.1 Cordoba's solutions and target groups

#### General Objective and Vision of the Cordoba Pilot Project

The primary aim of the Córdoba pilot is to improve the Inclusive Health and Wellbeing (IHW) of residents in the Las Palmeras neighbourhood by revitalising local patios into environmentally sustainable and culturally vibrant communal areas that foster social interaction and strengthen resilience to climate change.

#### Specific Objectives:

- Promote access to cultural, employment, and health-enhancing opportunities for Las Palmeras residents.
- Enhance both the actual conditions and the perceived quality of safety, accessibility, and overall livability by mitigating environmental stressors such as high temperatures, noise, and pollution.
- Support the development of well-being and welfare initiatives by linking them to employment opportunities in cultural, technological, and ecological sectors.
- Reduce social isolation among inhabitants by encouraging community engagement and inclusion.



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### Planned Visionary and Integrated Solutions (VIS):

- Convert existing patios into artistic, multifunctional, and green spaces that serve community and environmental needs.
- Organise practical training sessions in fields such as gardening, construction, painting, carpentry, and digital skills.
- Implement nature-based solutions (NBS) like green structures and shaded areas to lower ambient temperature and air pollution.
- Establish urban gardens and therapeutic green spaces to promote health and wellbeing.
- Introduce eco-friendly street furniture, playgrounds, and areas for recreation and relaxation.
- Install interactive, smart lighting systems powered by renewable energy.
- Design inclusive cultural and health-oriented walking routes to bridge community programmes.
- Facilitate workshops and collaborative initiatives for the shared management of patios.
- Host inclusive cultural events, including performances, music, competitions, or readings, aimed at fostering intercultural dialogue and reducing social division.
- Conduct educational and community activities that encourage healthy eating habits and lifestyle choices.

Specifically, the **intervention group** consists of Cordoba residents who live in Las Palmeras, while the **control group** consists of people who reside outside Cordoba and do not live in Las Palmeras.

## 2.2 The ex-post study in Cordoba – Key features



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The interviews were conducted online (computer-assisted interview). The intervention group consisted of 93 respondents, while the control group consisted of 209. The sample shows a slightly unbalance between male (43.05%) and female (55.30%) with only small minority preferring not to disclose their gender identification, moreover people with disability account for the 6,62% of while ethnic minority are represented by roughly 9.93% of the respondents.

The average age is 43.5 ( $\pm 18$ ), with the youngest being 17 and the oldest being 77. The level of education varies within the sample. The most common qualification is a master's degree, held by 25.17% of the individuals. A significant portion of the sample, 39.41%, has completed university-level education (including Bachelor's, Master's, or Doctoral degrees), followed by those with primary education (22.85%). Notably, 11.26% reported having no formal education.

## 2.3 The context of Cordoba

As of 2024<sup>2</sup> the municipality of Cordoba has a population of 322,811 inhabitants, with a slightly predominance of females (52%). In 2025, Cordoba counted 309,411 private households, with an average household size of 2.47 persons. Among them, single-person households represented a significant portion (27.6% of the total), while two-person households were the most common at 29.5%, followed by three-person households at 20%.

As reported by the Statistical Office of the city itself,<sup>3</sup> the city area shows a homogenous

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<sup>2</sup> This is the more recent data present on the Istituto Nacional de Estadistica (INE)

<sup>3</sup> Ayuntamiento de Cordoba <https://www.cordoba.es/la-ciudad/cifras-y-estadisticas/estadisticas-de-poblacion/estadisticas-2024#toc-distrito-seccion>



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ethnicity composition with only 4.55% of the population being a foreigner. The most represented groups are Rumanians (0.32%) and Moroccan (0.25%).

Despite Cordoba's rich cultural and historical heritage, recent socio-economic indicators highlight persistent challenges. According to INE<sup>4</sup>, the municipality's unemployment rate was 22.2% in 2022, significantly above the national average of 11.4%.

The IN-HABIT project spotlights Las Palmeras, a marginalized neighbourhood of more than 2.000 inhabitants. Residents face severe socio-economic barriers: spatial segregation, reliance on social welfare, poor housing condition, health inequalities, obesity, substance use and limited educational opportunities.

The reference framework for the IN-HABIT intervention in Córdoba was established through a baseline study conducted in 2020. While issues of violence and crime were acknowledged, the study also revealed a relatively high level of **social cohesion** within the Las Palmeras community. Many residents reported a **sense of institutional abandonment**, particularly linked to the recurrent relocation of conflict-prone and socially vulnerable families into the area. Despite these challenges, **66% of respondents** expressed **satisfaction with their relationships with neighbours**, with no statistically significant differences observed between the intervention and control groups.

Furthermore, perceptions of **social support networks** were notably positive among residents of Las Palmeras. Specifically, **52%** of individuals in the intervention group reported the presence of **associations or community groups** capable of offering assistance, compared to **34%** in the control group—indicating a meaningful difference in perceived community support.

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<sup>4</sup> INE (2023), Urban Indicators, Press Release



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Regarding **personal safety**, the baseline study identified significant disparities between the intervention and control groups across all indicators. For instance, 46% of respondents in the intervention area considered **walking alone after dark to be unsafe**, compared to 31% in the control group. Focus group discussions attributed this widespread sense of insecurity to the presence of a small number of individuals exerting control over the neighbourhood through violence and access to weapons. However **social gatherings in public space** revealed to be common in both group (69% of the overall respondents reported to getting together with friends or relative once a month or more).

The majority of survey participants reported having **no difficulties accessing cultural and leisure opportunities in their neighbourhood** (71%) while relevant differences were highlighted in the access to some local resources such as moving of foot or by bike, finding healthy food, accessing playgrounds for children and finding pleasant green areas that were considered easier by the control group than to the Las Palmeras community.

Finally, the baseline study reported the widespread dissatisfaction towards the economic situation of Las Palmeras neighbourhood with high-level of unemployment, job insecurity and black/grey work.

## 2.4 The ex-post study in Cordoba – Results

### 2.4.1 Social well-being in Cordoba

The survey asked the respondents how safe they feel walking alone in the public green area of their neighbourhood. The result in Figure 2.A shows no significant differences between the two groups, as displayed below, 72% of the control group reported feeling safe, slightly higher than the 70% of Las Palmeras community.



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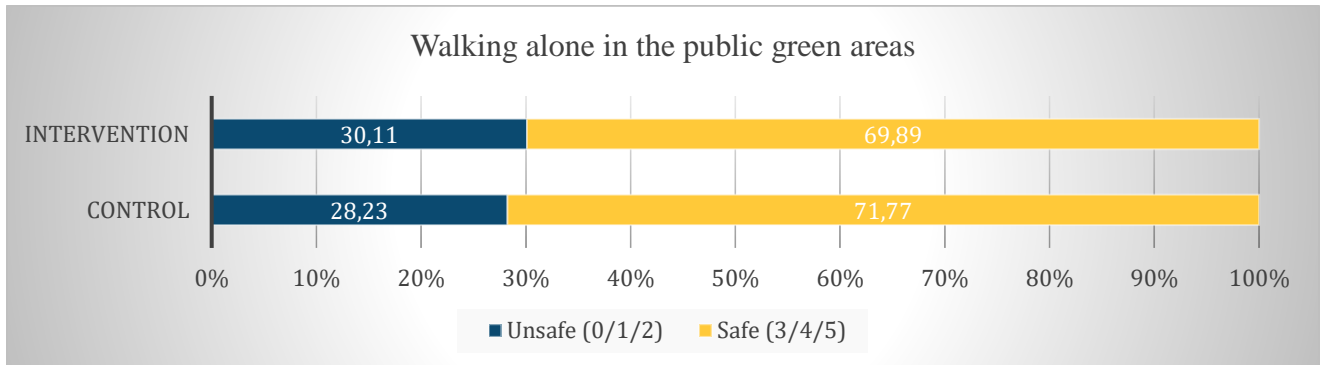


Figure 2.A Perception of security in Cordoba (survey data: self-selection + snowball sampling). Sample size = 302, intervention group size = 93, control group size = 209

We tested whether the difference in the positive answer (safe) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, the difference in Figure 2.A was not statistically significant (p-value = 0.7414).

Figure 2.B allows to assess the accessibility of local neighbourhood resources comparing between the intervention and control group in the city of Cordoba. Unfortunately, despite the implementation of the VIS, the graph reveals that Las Palmeras community tends to face greater difficulties across nearly all the indicators under study.

The only parameter in which the two groups show similar level of accessibility regards how easy is to participate in cultural events, around the 46% of each group consider it to be easy (score 3/4/5).

In terms of finding safe, accessible and pleasant green areas, 67,46% of the control group found it easy compared to just 47,31% in the intervention group, highlighting the persistence of significant differences between Las Palmeras and the rest of Cordoba.



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When asked about finding a green space to do sport the differences between the two areas is confirmed with a 20-percentage points difference observed in the respondents' answer. More than 60% of the control residents claimed to easily find green areas to do sport compared to just 40,86% of the intervention area

The most substance difference regards the accessibility to healthy food in which the control area respondents claimed to easily find healthy food in the 78,47% of the surveys versus the 52,69% of the intervention area.

Regarding how is easy is to adopt green mobility (moving by foot or bike) the contrast between Las Palmeras and the rest of the city of Cordoba, although still present, displays lower differences in percentage terms. 74,64% of the control area considers easy to move by bike versus the 61,29% of the intervention area. When asked about moving on foot, the control area still outperform the intervention area (81,82% versus 65,59%).



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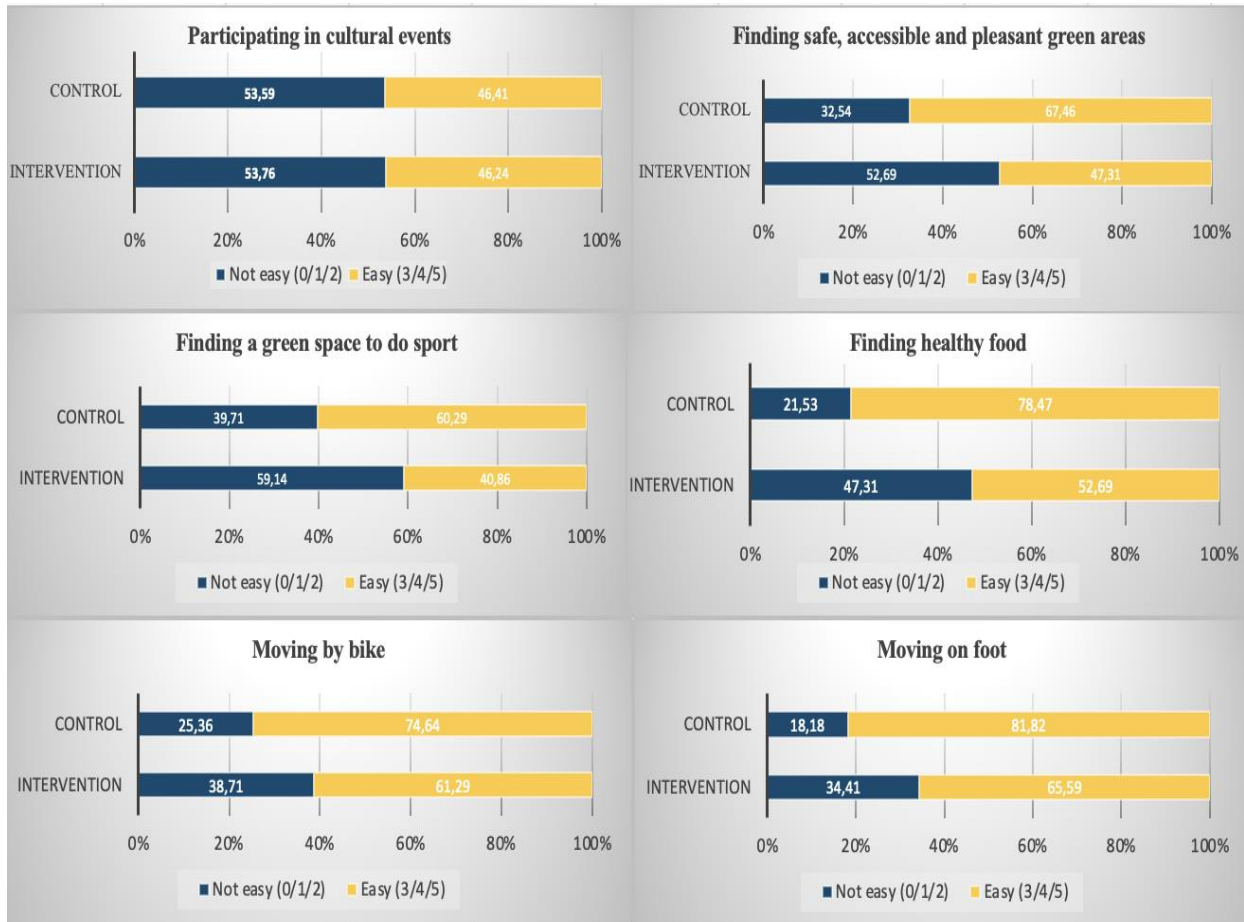


Figure 2.B Accessibility of local resources: how easy is to find the following resources in the neighbourhood (survey data: self-selection + snowball sampling). Sample size = 302, intervention group size = 93, control group size = 209

These results suggest that, despite the VIS that have been implemented in Las Palmeras neighbourhood, significant differences in local resources accessibility are still in place. Notably, the intervention area shows some improvement with respect to the baseline survey in the accessibility to cultural events, which could signal the positive effect of the IN-HABIT project.



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We tested whether the difference in positive answers (“easy”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, the differences for the questions “Finding safe, accessible and pleasant green areas”, “Finding a green space to do sport”, “Finding healthy food”, “Moving by bike” and “Moving on foot” are statistically significant (p-values of 0.001, 0.002, 0.0001, 0.01878 and 0.02, respectively). Finally, the difference for the question “Participating in cultural events” is not statistically significant at either the 95% or the 90% confidence level (p-value = 1).

Figure 2.C displays the comparison of inhabitants’ perceptions of public green areas in Cordoba analysing different parameters. These indicators allow a comprehensive assessment of public green space quality, inclusiveness and accessibility. Each statement was evaluated on a scale, with agreement (values 3/4/5) shown in yellow and disagreement (values 0/1/2) in blue.

The first shown indicator regards the quality of maintenance that is usually performed in the neighbourhood’s green space. A significant difference in the groups perceptions is revealed with 56,46% of the control group agreeing with the sentence “**they are well maintained**” compared to only the 48,39% of the intervention group.

For what concern accessibility the statement directly addressed the possibility for disable people to enjoy the green spaces. The control group outperformed the intervention group for nearly 8 percentage points with an agreement of 63,64% versus a 55,91%.

The difference in the perception of green spaces is confirmed in the subsequent indicator. The statement was “**they are a pleasant and beautiful place to spend my free time**” and shown the most striking difference with 17 percentage points separating intervention and control group (58,37% versus 41,94%).



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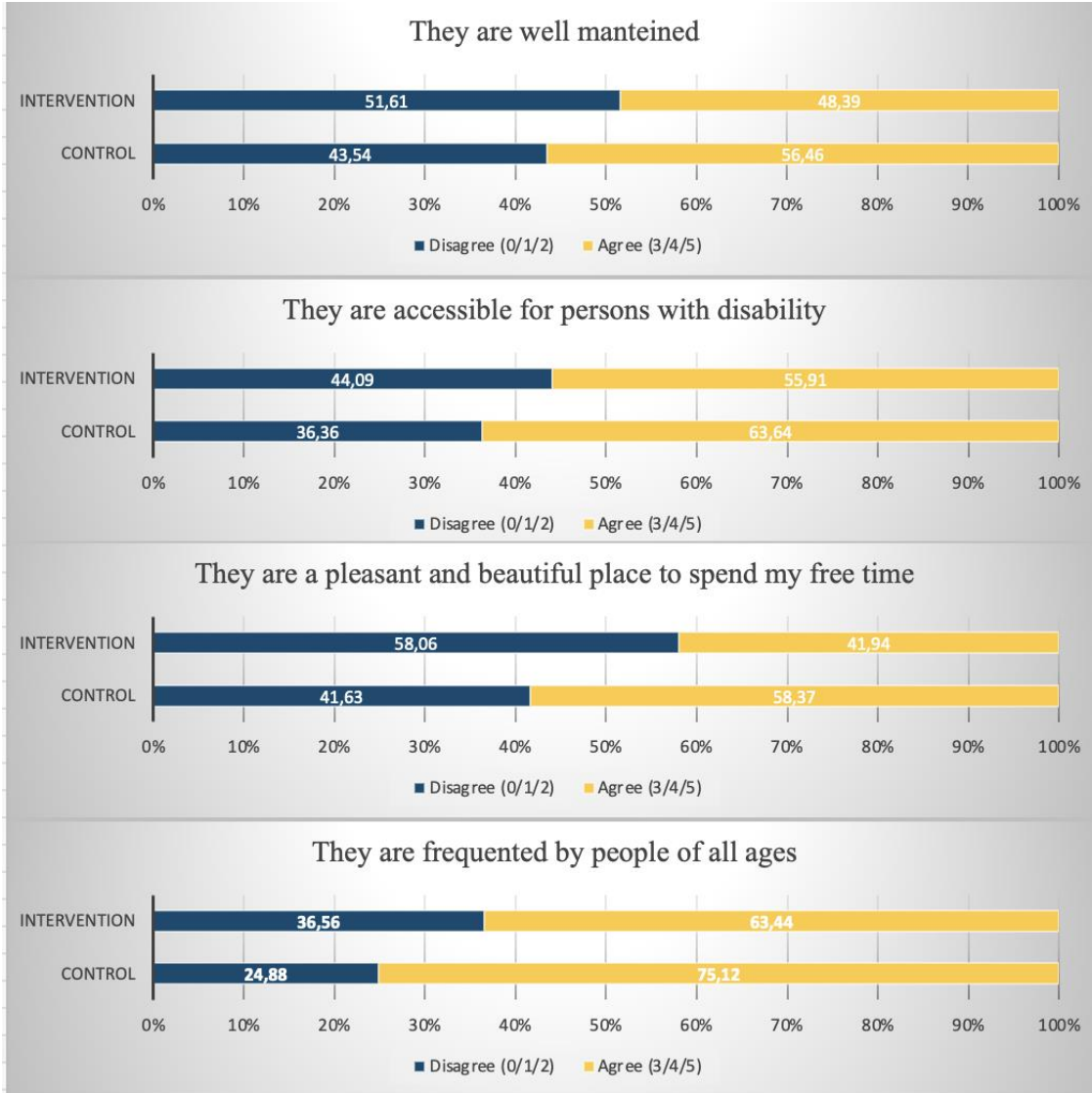


Figure 2.C Satisfaction with urban green areas in Cordoba (survey data: self-selection + snowball sampling). Sample size = 302, intervention group size = 93, control group size = 209



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The last considered parameter regarded intergeneration accessibility, “**they are frequented by people of all ages**”. Unfortunately, the control group’s agreement was, again, higher with a 75,12% compared to only the 63,44% of the intervention group.

Unfortunately, despite the implementation of the VIS, the public green area located in Las Palmeras are still perceived less inclusive, accessible and of lowest overall quality by the residents then the green areas in the rest of the city.

We tested whether the difference in positive answers (“agree”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, the difference for the question “They are frequented by people of all ages” is statistically significant (p-value = 0.03752). The difference for the question “They are a pleasant and beautiful place to spend my free time” is not statistically significant at the 95% level (p-value = 0.083), although it is significant at the 90% level. Finally, the differences for the questions “They are well maintained” and “They are accessible for persons with disability” are not statistically significant (p-values = 0.1936 and 0.20408, respectively).

## 2.4.2 Healthy lifestyles in Cordoba

## 2.4.3 Economic well-being in Cordoba

The assessment of economic well-being in the city of Córdoba is based on respondents’ self-perceptions. The survey asked participants whether they considered their family’s economic situation to be below average, average, or above average. In the intervention area, a higher proportion of respondents reported perceiving their economic situation as below average (39.73% compared to 16.04%), reflecting the economic challenges faced by the Las Palmeras neighbourhood.



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## 2.4.4 GDEI analysis in Cordoba

This section examines the socio-economic well-being and health-related behaviours of groups at risk of discrimination and social exclusion in Córdoba. The findings from the GDEI analysis should be interpreted with caution, as the limited number of observations may not provide sufficient statistical reliability.

### Women

Out of the 302 respondents, 167 identified as female, accounting for approximately 55.3% of the total sample. Of these, 51 were part of the control group and 116 belonged to the intervention group.

The data do not reveal substantial differences between women and men regarding perceived safety in green spaces: 28.74% of women and 29.23% of men rated green areas as unsafe to walk alone (score 0/1/2). However, women appear less inclined to spend time in such spaces, with 56.89% scoring 0/1/2 in response to the item “spend a large amount of time in green space,” compared to 50% among men. Additionally, during a typical working day, women are more likely to spend less than an hour in green spaces (59.88% of female respondents), slightly higher than the 50% reported by men. Finally, no significant differences are observed regarding the ease of accessing healthy food, which is reported as difficult by 34,13% of women and 37,60% of men.

### Elderly and young people

Following the classification adopted in the Baseline Study, the analysed cohorts are defined as follows: *young persons* (18–34 years, 101 respondents, representing 33.44% of the sample), *mature adults* (35–65 years, 179 respondents, representing 59.27%), and *elderly* (65 years and over, 22 respondents, representing 7.29%).



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Young respondents were more likely than mature adults to report spending time playing, relaxing, or engaging in sports within public green areas (56.44% compared to 40.22% who declared spending more than one hour per day). They were also more frequently involved in volunteering activities aimed at maintaining public spaces and green areas in their neighbourhood for more than one hour per day (62.38% versus 42.46%). In contrast, the two cohorts exhibited similar levels of satisfaction with their relationships with other residents in the neighbourhood.

Adults were more likely than elderly respondents to perceive an improvement in the neighbourhood's image over the past two years (49.16% versus 36.36%) and to consider green areas as pleasant places to spend time (61.45% versus 50%). They were also more inclined to view green spaces as suitable environments for practising sports (58.10% versus 36.36%) and to report feeling safe when walking alone within them (70.39% versus 59.09%).

### **Persons with disabilities**

Only 20 respondents reported having a form of disability. While the small sample size limits the reliability of statistical associations, some differences emerged in key impact indicators.

Individuals with disabilities were more likely than those without to spend time relaxing or engaging in sports in public green areas (60% versus 43.43%) and were also more inclined to participate in volunteering activities in such spaces (55% versus 49.27%).

### **Ethnic minorities**

With regard to ethnic minorities, only 30 respondents reported belonging to one, compared to 249 who did not. Given the small size of the minority group, the results should be interpreted with caution due to lower statistical relevance.



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The two groups reported similar frequencies of visiting public green areas 30 times per month or more (20% and 18%, respectively). Respondents from ethnic minorities were more likely to report spending time daily in green areas (56.67% versus 42.97%). However, they were less likely to find green areas accessible and well-maintained, and less likely to perceive them as places frequented by people of all ages (54.33% versus 73.49%).

## 2.5 Qualitative evaluation

The European project IN-HABIT, implemented in the neighbourhood of Las Palmeras in Córdoba, Spain, has led to significant physical and social transformations, as expressed by local women during a group interview. This initiative, focused on inclusive well-being, aimed to regenerate public spaces through cultural and nature-based interventions, while fostering social cohesion and community empowerment in an area historically affected by socio-economic challenges.

Participants emphasised the improvement of the physical environment as a key achievement. Interventions such as the creation of a picnic area (“merendero”), the ecological restoration of the nearby stream (referred to locally as the “paseo marítimo”), and the planting of trees have generated safe, shared spaces that promote community interaction and pride. These changes are not only aesthetic but are seen as enhancing the neighbourhood’s liveability and sustainability.

More importantly, the interviewees highlighted social and emotional changes as the most meaningful outcomes. The project facilitated stronger interpersonal bonds among residents, many of whom previously had limited interaction despite living in close proximity. Through shared involvement in activities, the women described the formation of a united group with a shared goal: to reclaim and improve their neighbourhood. This process fostered a sense of belonging, mutual trust, and collective identity.



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A recurrent theme was the increase in civic responsibility and ownership over the new spaces. Many expressed that their involvement in decision-making—such as choosing the location of benches or the colours of the renovated square—led to greater respect for the results. In contrast to prior expectations of vandalism or apathy, the spaces were preserved and valued, attributed to the community's emotional investment and active role in the process.

The role of the researchers and project facilitators was viewed as fundamental. Their consistent, approachable, and non-hierarchical engagement was perceived as a major factor in building trust. Unlike previous external interventions, IN-HABIT was seen as transparent and genuinely collaborative, which helped overcome initial scepticism and encouraged sustained involvement.

From a well-being perspective, the project also had positive psychological effects. Several participants shared how IN-HABIT helped them cope with personal loss, emotional difficulties, or social isolation. Regular activities and community gatherings became vital sources of motivation, structure, and social support. Additionally, training sessions—such as the entrepreneurship course—were praised for boosting confidence and providing practical tools for personal growth.

Participants also reflected on the external impact of the project. They noted increased visibility of Las Palmeras in the media and through public events, including participation in national and international exchanges. This positive representation was seen as a break from the historical stigmatisation of the neighbourhood and a step towards broader recognition of local potential.

In conclusion, the group's testimony reveals that IN-HABIT acted as a catalyst for both tangible urban improvement and intangible social transformation. While the physical changes are visible and appreciated, it is the participatory process—marked by shared



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effort, dialogue, and ownership—that the participants most value. The project stands as an example of how community-led initiatives can generate lasting impacts in vulnerable urban contexts

## Synthesis of results

The quantitative results for Córdoba reveal the persistence of substantial structural inequalities despite the implementation of VIS. Access to healthy food remains markedly lower in the intervention area compared to the control area (52.69% vs. 78.47%), and access to green areas is also reduced (4.31% vs. 67.46%). These figures indicate that neighborhood-level interventions alone were insufficient to substantially alter key determinants of health and well-being in a context characterized by long-standing socio-economic deprivation.

Qualitative evidence from focus groups provides insight into the mechanisms behind these outcomes. Participants highlighted entrenched poverty, territorial stigma, and limited availability of services as dominant constraints shaping everyday life. While VIS contributed to improved awareness of environmental quality and, in some cases, to increased social interaction, these effects were mediated by structural barriers related to food systems, mobility, and employment.

From a policy perspective, the Córdoba case suggests that VIS in highly deprived urban areas should be embedded within broader, multi-level strategies aligned with the EU Pillar of Social Rights and the “Health in All Policies” approach. Specifically, urban regeneration initiatives would benefit from being coupled with targeted food-access policies, social services, and employment support, ensuring that place-based environmental improvements translate into equitable health and well-being outcomes.



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## 3 Riga

### 3.1 Riga's solutions and target groups

#### General Objective and Vision of the Riga Pilot

The overarching aim of the Riga pilot is to foster inclusive and health-oriented communities within the Āgenskalns neighbourhood. Central to this initiative is the revitalisation of the local market, transforming it into a hub that encourages sustainable and nutritious food practices, enhances social and cultural cohesion, and contributes to making the area a more attractive, safe, and welcoming place for both residents and visitors.

#### Key Visionary and Integrated Solutions (VIS) in Riga

- Transformation of a public square and related traffic junctions next to Āgenskalns market into a new, easily accessible and green urban square to encourage the use of bicycles and healthy mobility practices.
- New green zones, sports facilities and art corners co-deployed in collaboration with local artists, sports associations and enterprises.
- Organization of interactive events for children and parents about healthy nutrition and sustainable diets.
- Educational courses for urban gardeners in collaboration with specialists of the Botanical Garden of University of Latvia and other partners.
- Behavioural games, digital guidance and information provided via the INHABIT-APP to support healthy diets, sustainable food production/consumption and recycling practices as well as physical activity and sports (walking and cycling) in the neighbourhood.
- Novel food chain arrangements that bring together farmers, small scale processors, food artisans, craftsmen and women, catering businesses and consumers in order to shorten supply chains and promote healthy food habits.
- Organization of culinary events, vocational training and educational activities in the community kitchen, with the involvement of children, the elderly and other



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vulnerable groups (ethnic minorities, persons with disabilities), thereby contributing to social cohesion and delivering a fair and equitable distribution of benefits.

- Implementation of cew collection and re-use practices for food close to its expiration date in collaboration with market vendors.

A baseline assessment of Inclusive Health and Wellbeing (IHW) in Riga was conducted to determine the initial status of the intervention group (IG) in terms of socio-economic wellbeing, mental health, and lifestyle practices. This group has been defined by the local research partner BSC. Using quantitative data from a city-wide survey, the evaluation compared the intervention group to a control group. The ex-pot study kept the same definitions for the two groups. Specifically, the **intervention group** consists of adults (18+) residing in Riga who live in Āgenskalns OR who frequently attend Āgenskalns, while the **control group** consists of adults (18+) residing in Riga who live outside Āgenskalns AND who do not frequently attend Āgenskalns.

### 3.2 The ex-post study in Riga – Key features

The interviews were conducted online (computer-assisted interview). The intervention group consisted of 155 respondents, while the control group consisted of 153. The majority of respondents are female (58.77%), followed by males (39.61), and only a small minority identify as non-binary or preferred not to reveal their gender. People with disabilities account for about 13% of the sample, while from the perspective of religion, the majority are either Christian (49.35%) or atheist (16.88%). The LGBTIQ+ community is underrepresented: only 9% identify themselves in this category, while 76.95% are heterosexual.

The average age is 48 years ( $\pm 13$ ), with the youngest being 20 years old and the oldest 99 years old. 87% of respondents have national citizenship and 75% have permanent



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residency. Nearly 40% of respondents have a master's degree and almost 70% have full-time employment. Finally, one in two respondents is married.

### 3.3 The context of Riga

As of 2025, the city of Riga has a population of approximately 615,764 residents.<sup>5</sup> Women make up a modest majority of Riga's population, accounting for approximately 55%, compared to around 45% men. Riga remains a multicultural city: over 44% of Riga residents are native to Latvia, while ethnic Russians formed 37.88%, Belarusians 3.72%, Ukrainians 3.66%, Poles 1.83% and other ethnicities 8.10%. The high rate of Russians living in Riga is expected to decline in the years to come as emigration continues.

The city comprises about 291,000 private households, with an average household size of two people. According to Eurostat data, single-person households represent 44% of the total. Among these, 17% consist of elderly individuals living alone, while 15% are single-parent families. Furthermore, children aged 0–17 are present in approximately 25% of all households.

Riga's historic centre holds UNESCO World Heritage status, a recognition of its exceptional cultural and architectural significance. As part of the IN-HABIT project, the initiative targets the Āgenskalns neighbourhood, with a particular emphasis on revitalising the area around the Āgenskalns market and its adjoining public spaces. Founded in 1898, Āgenskalns market is a prominent heritage site in the Pardaugava district and officially recognised as a national cultural monument. The market was temporarily closed in January 2018 due to severe structural deterioration. In response, the Riga City Council, in collaboration with project partner Kalnciema Quarter, initiated a comprehensive restoration programme. Despite disruptions caused by the COVID-19 pandemic, renovation activities progressed, and the market continued to operate partially, serving as a venue for open-air cultural activities including concerts, workshops, public discussions, and artistic performances.

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<sup>5</sup> <https://worldpopulationreview.com/cities/latvia/riga>



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Today, Āgenskalns market has become a dynamic hub that unites local producers, street food vendors, artists, and community organisations. It serves as a platform for promoting sustainable food practices, encouraging innovation in local food systems, and building partnerships with creative and social actors from both the neighbourhood and the wider city. The market's transformation has significantly contributed to the regeneration of Āgenskalns, enhancing its reputation as a welcoming, vibrant, and socially inclusive area. Local residents appreciate the strengthened sense of community, improved access to nutritious food, enriched cultural offerings, and the quality of the surrounding public and green spaces.

To establish a reference point for the project, a baseline study was carried out in 2020. Findings revealed that the vast majority of respondents from the intervention group in Riga had **internet access** at home. No significant disparities were observed between residents of Āgenskalns and those living in other parts of the city. However, minor variations were noted based on age and disability status: older individuals were somewhat less likely to report home internet access, though this group represented a small portion of the sample. Insights from the qualitative component of the study further indicated a general perception of social equality within the neighbourhood.

The **perception of discrimination** in society has been also analysed as possible characteristic of the context that may influence the impact of the project. The baseline study revealed that the perception of discrimination in the local community was not as widespread in the intervention group since participants report to live in an open and welcoming neighbourhood. Participants with disabilities, as well, underline that in general the neighbourhood is open and welcoming. Participants, however, perceived that some ethnic groups are more exposed to discrimination in the city, such as a people from the Middle East and India who live in Āgenskalns as well as foreign students attending universities. In the ex-post study we



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confirm this trend, with people feeling discriminated accounting for 32% in the control group while for 23% in the intervention group.

With regard to **healthy lifestyles**, the baseline study indicated that most respondents in Āgenskalns expressed satisfaction with their physical health: 61% rated their health as good, very good, or excellent. This perception was consistent across both the intervention and control groups, with similar figures reported (59% vs 61%). Physical activity was also moderately common among participants in the intervention group. However, the ex-post study reveals a significant divergence between the two groups. In the ex-post survey, 52% of respondents in the intervention group continued to report good, very good, or excellent physical health, compared to only 38% in the control group. This positive outcome in the intervention group is further supported by higher levels of physical activity: just 26% of respondents in the intervention group reported not engaging in any physical activity over the previous two months, in contrast to 46% in the control group. Despite this discrepancy in physical activity and perceived health status, both groups reported similarly high levels of access to healthy food, indicating that food availability was not a limiting factor for either cohort.

Finally, the **economic situation** of respondents in the control group shows a shift compared to the baseline findings. In the baseline study, the vast majority of participants (83% in the intervention group and 82% in the control group) perceived their financial situation as average or above average compared to others in their neighbourhood. However, in the ex-post study, this perception declined in the control group to 73%, while it remained stable at 83% in the intervention group. These perceptions are consistent with reported unemployment figures: 8% of respondents in the control group were unemployed, compared to just 4% in the intervention group.



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## 3.4 The ex-post study in Riga – Results

### 3.4.1 Social well-being in Riga

The survey asked respondents in Riga about the safety of walking alone at night, during the day, and in public green spaces. In addition, they were asked if they were concerned by road accidents and if they observed vandalism frequently. Overall participants to the ex-post study from Āgenskalns neighbourhood show a good level of perceived security, even during the night, as well as a good perception of safety regarding public green areas. Possible areas of improvement regard the condition of women, young people, students and LGBTIQ people.

Figure 3.A presents residents' perceptions of safety in Riga, comparing the intervention area with control areas across four dimensions. In terms of walking or cycling on the streets without fear of being involved in a road accident, 50.97% of respondents in the intervention area reported feeling safe, slightly lower than the 54.90% in the control areas. This indicates a marginally more positive perception of traffic safety in control zones, though the difference is not substantial.

When it comes to leaving a vehicle such as a car, bicycle, or motorcycle unattended, 64.52% of respondents in the intervention area felt safe doing so, compared to 60.13% in the control areas. This suggests a higher level of confidence in the intervention area regarding the security of personal property left in public spaces.

A more marked difference appears in the responses about walking alone after dark. In the intervention area, 62.58% of people reported feeling safe, while only 53.59% of respondents in the control group shared this view. This nearly 9-point difference may indicate that the intervention area has benefitted from improvements (possibly in lighting, social cohesion, or public presence) that contribute to a stronger sense of security at night.



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The results related to walking alone in public green areas show the highest levels of perceived safety across all indicators. In the intervention area, 85.16% of respondents reported feeling safe, slightly higher than the 83.66% in control areas. This reflects a generally strong sense of comfort in green spaces, with slightly more positive sentiment in the intervention area.

Overall, the intervention area shows equal or better perceptions of safety across all dimensions, with the clearest positive difference related to walking alone after dark. These results support the idea that targeted interventions may have contributed to an improved sense of security among residents.

We tested whether the difference in positive answers (safe) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 3.A were statistically significant (p-values from the top barplot to the bottom are 0.49, 0.42, 0.11, 0.72, and 0.83).



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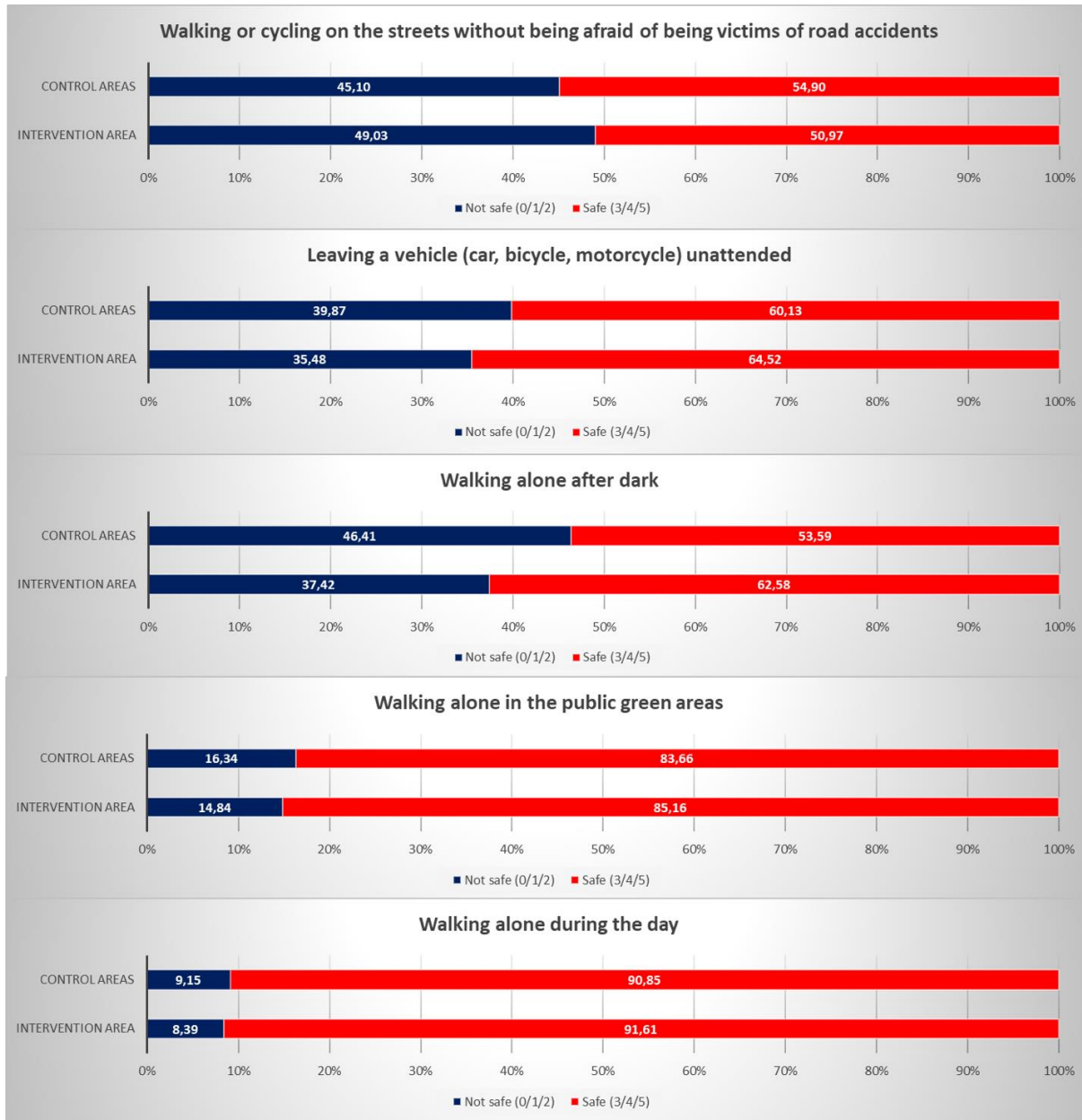


Figure 3.A Perception of security in Riga (survey data: self-selection + snowball sampling). Sample size = 308, intervention group size = 155, control group size = 153



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Figure 3.B compares levels of community engagement and social interaction between residents in the intervention area and those in control areas across four types of activities. Regarding volunteering to take care of public or green spaces in the neighbourhood, the majority in both groups engage infrequently. In the control areas, 92.16% of respondents reported participating less than once a month, while 7.84% do so once a month or more. In the intervention area, 90.32% participate less than monthly, and 9.68% are more actively involved, indicating a slightly higher volunteer engagement compared to the control areas.

Participation in cultural, social, or voluntary neighbourhood events such as dinners, festivals, or religious activities also shows comparable levels across both groups. In the intervention area, 10.32% of respondents attend these activities at least monthly, slightly lower than the 11.76% in the control areas, while the vast majority in both areas participate less frequently.

When it comes to informal conversations with neighbours about community problems, responses are again very similar. In the control group, 25.49% of participants engage in such discussions at least once a month, compared to 23.87% in the intervention area, suggesting consistent but modest levels of community dialogue in both contexts.

The most notable difference between the two groups appears in the frequency of getting together with friends or relatives in public spaces. In the intervention area, 42.58% of respondents reported doing this at least once a month, significantly higher than the 33.99% in the control areas. This suggests that residents in the intervention area are more socially active in shared public spaces, potentially reflecting improved public amenities, accessibility, or a stronger sense of community.



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Overall, the data indicate that while differences in community engagement are generally small, the intervention area shows slightly higher participation in volunteering and a marked increase in social interaction in public places. This points to some positive effects of the interventions on social cohesion and use of communal spaces.



Figure 3.B Socio-cultural engagement and relations in public spaces: how often do people engage in the following activities in Riga (survey data: self-selection + snowball sampling). Sample size = 308, intervention group size = 155, control group size = 153



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We tested whether the difference in positive answers (once a month or more) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 3.B were statistically significant (p-values from the top barplot to the bottom are 0.57, 0.69, 0.74, and 0.12).

Figure 3.C provides a comparative view of residents' perceptions of public green areas in Riga, focusing on several dimensions related to access, inclusiveness, and overall quality. It contrasts responses from individuals living in the intervention area and those in control areas. Each statement was evaluated on a scale, with agreement (values 3/4/5) shown in red and disagreement (values 0/1/2) in blue.

A higher share of respondents in the intervention area disagreed with the statement "I do not frequent any public green area" (73.55% vs. 60.13%), indicating that more residents in the intervention area regularly use green spaces. This suggests increased engagement and possibly improved usability or attractiveness of these spaces following the interventions.

Accessibility for persons with disabilities was perceived more positively in the intervention area, where 70.97% of respondents agreed with the statement, compared to 59.48% in control areas. This may reflect tangible improvements in infrastructure, such as barrier-free paths or inclusive design features introduced through the IN-HABIT interventions.

Regarding maintenance, perceptions were significantly better in the intervention area: 74.19% of respondents agreed that green areas are well maintained, compared to 62.09% in the control areas. This nearly 12-point difference highlights a stronger sense of cleanliness, care, and orderliness in the improved areas.



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Respondents also viewed the green spaces in the intervention area as more inclusive. 85.16% agreed that these spaces are frequented by people of all ethnicities, compared to 77.78% in the control areas. Similarly, 80.00% of respondents in the intervention area believed that people of all ages use these areas, slightly higher than the 75.16% in control zones. These findings point to a more socially integrated and welcoming environment in the intervention area.

When asked whether public green areas are pleasant and beautiful places to spend free time, 76.13% of participants from the intervention group responded affirmatively, compared to 67.32% in the control group. This reinforces the conclusion that interventions have enhanced not only the functional but also the aesthetic and experiential quality of these spaces.

We tested whether the difference in positive answers (agree) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, we have that the differences for the questions “I do not frequent any public green area”, “They are accessible for persons with disability”, and “They are well maintained” are statistically significant (p-values 0.012, 0.034, and 0.023, respectively). At the 90% confidence level, the differences for the questions “They are frequented by people of all ethnicities” and “They are pleasant and beautiful place to spend my free time” are statistically significant (p-values 0.095 and 0.085, respectively). Finally, the difference for the question “They are frequented by people of all ages” is not statistically significant at either the 95% or the 90% confidence level (p-value = 0.31).



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Figure 3.C Satisfaction with urban green areas in Riga (survey data: self-selection + snowball sampling). Sample size = 308, intervention group size = 155, control group size = 153



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In summary, the data clearly show that respondents from the intervention area perceive their green spaces more positively across all evaluated dimensions: frequency of use, accessibility, maintenance, inclusivity, beauty, and overall experience. These perceptions suggest that the IN-HABIT project had a meaningful and multidimensional impact on the quality of public green areas and their role in community well-being.

Regarding the sense of belonging and the overall perception of the neighbourhood (Figure 3.D), respondents from the intervention group reported an overall good level of attachment to their living area. Respondents from the intervention area are generally more positive than those in the control group. The ex-post survey shows that a large majority agrees that the image of the neighbourhood has improved in the past two years, with respondents from the intervention area agreeing more than those in control group.

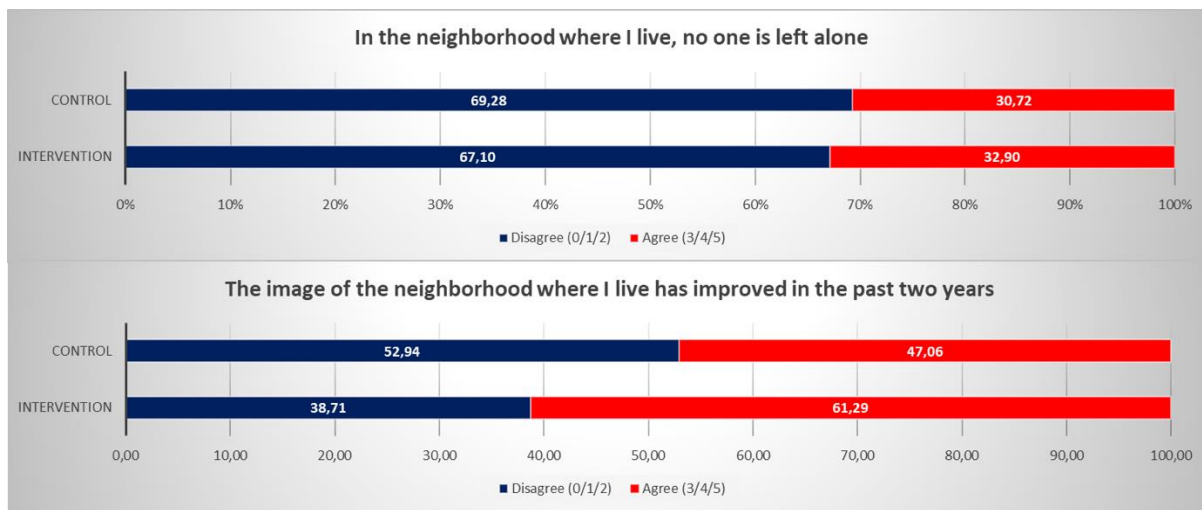


Figure 3.D Sense of belonging and perception of the neighbourhood in Riga (survey data: self-selection + snowball sampling). Sample size = 308, intervention group size = 155, control group size = 153



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We tested whether the difference in positive answers (agree) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, we have that the difference for the question “The image of the neighborhood where I live has improved in the past two years” is statistically significant given a p-value of 0.012, while the difference for the question “In the neighborhood where I live, no one is left alone” is not, given a p-value of 0.68.

Figure 3.E presents residents’ perceptions of how easy it is to access a variety of local resources in their neighbourhoods, comparing responses from control areas with those from the intervention area in Riga. Across nearly all indicators, residents in the intervention area report greater ease in accessing key services and spaces, suggesting that the IN-HABIT project positively impacted local accessibility and quality of life.

When asked about finding help from others, 49.03% of respondents in the intervention area said it was easy (score 3/4/5), compared to 43.14% in the control group. While the difference is modest, it points to slightly stronger social support networks in the intervention area.

In terms of access to adequate social and health assistance, 58.71% in the intervention area found it easy, compared to 55.56% in the control area. Again, the difference is moderate but confirms a more positive perception of social services where the intervention occurred.

The most substantial contrast appears in participating in cultural events. Here, 62.58% of intervention area residents said it was easy, versus only 40.52% in the control areas, a striking difference of over 22 percentage points. This result reflects the success of local cultural programming and events introduced or supported by the project.

For mobility by bike, both groups reported high ease of use, though the intervention area again shows a small advantage (85.81% vs. 81.05%). This suggests well-developed



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cycling infrastructure throughout Riga, with some enhancement in the intervention neighbourhood.

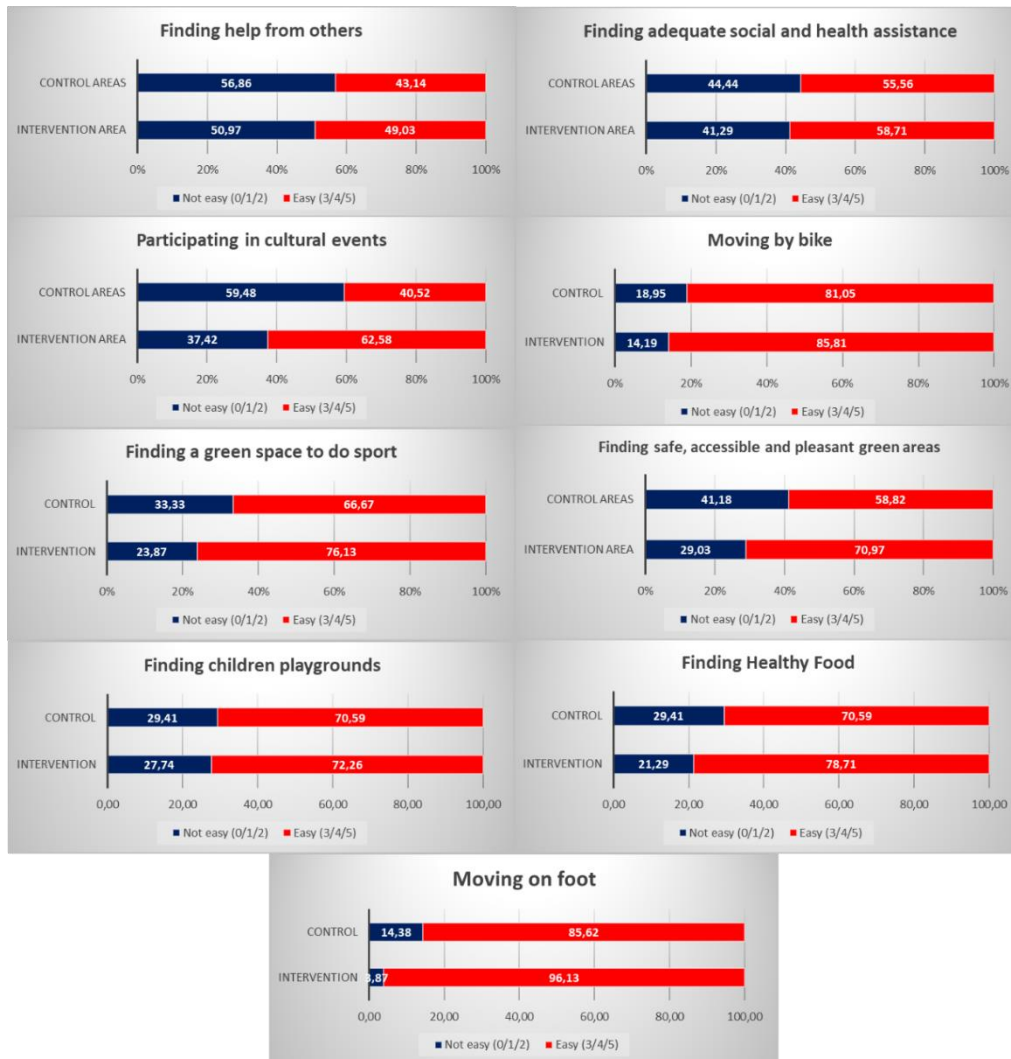


Figure 3.E Accessibility of local resources: how easy is to find the following resources in the neighbourhood (survey data: self-selection + snowball sampling). Sample size = 308, intervention group size = 155, control group size = 153



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Regarding finding a green space to do sport, 76.13% in the intervention area report it as easy, compared to 66.67% in the control group. Similarly, for finding safe, accessible, and pleasant green areas, 70.97% of intervention residents find it easy, versus 58.82% in control areas. These results reinforce the positive impact of improvements made to green infrastructure in the targeted zone.

Access to children's playgrounds is reported as easy by 72.26% in the intervention area and 70.59% in the control group, a minimal difference that still slightly favours the intervention context. When it comes to finding healthy food, 78.71% of residents in the intervention area said it was easy, compared to 70.59% in control areas. This may be linked to the revitalised Āgenskalns market and local food initiatives supported by the project.

Finally, a contrast is observed in ease of moving on foot: 96.13% of respondents in the intervention area found walking easy, compared to 85.62% in control areas. This substantial gap suggests a significant improvement in walkability, likely tied to enhancements in pedestrian paths, street safety, and the overall urban environment.

In summary, the intervention area outperforms the control areas across all indicators, particularly in cultural participation, access to green spaces, healthy food, and pedestrian mobility. These results indicate that the IN-HABIT interventions not only improved physical infrastructure but also fostered a more inclusive, connected, and supportive neighbourhood environment.

We tested whether the difference in positive answers (easy) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, we have that the differences for the questions "Participating in cultural events" and "Finding safe, accessible and pleasant green areas" are statistically



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significant (p-values 0.0001 and 0.026, respectively). At 90% confidence level the difference for the question “Finding a green space to do sport” is statistically significant. For the question “Finding Healthy Food” the p-value is 0.103, while for the other questions p-value are above 0.26.

### 3.4.2 Healthy lifestyles in Riga

The baseline study explored several behaviours and attitudes related to healthy living that were expected to improve through the IN-HABIT interventions. These included the consumption of self-grown fruits and vegetables, levels of awareness and motivation toward healthy habits, physical activity in public green areas, and perceived benefits of regular exercise.

In the control group, a large majority (79.08%) reported not using public green spaces for sports at all. Only 1.31% used them more than twice a week, while 7.84% did so once or twice a week, and 11.76% less than once a week. These figures suggest limited engagement with green areas for physical activity among control area residents. In contrast, the intervention group shows significantly more frequent use of green areas for sport. 60.65% reported no use, which is notably lower than in the control group. More encouragingly, 7.10% used them more than twice a week, 10.97% once or twice a week. These figures reflect a broader and more regular use of green spaces for physical activity in the intervention area. While a majority in both groups remain inactive in this context, the intervention area demonstrates clear improvements in sport-related use of public green areas. The proportion of residents engaging in physical activity at least once a week (18.07% in the intervention group vs. 9.15% in the control) more than doubles. This supports the idea that IN-HABIT interventions may have contributed to greater accessibility, motivation, or opportunity for outdoor sports, even if the overall levels of engagement still leave room for further improvement.



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Overall, the intervention area shows a more positive perception of the ease of finding healthy food in their neighbourhood: 78.71% of respondents rated ease of access to healthy food between 3 and 5, compared to 70.59% in the control group. Specifically, scores of 4 and 5, indicating the highest levels of ease, were more common in the intervention area (43.87%) than in the control (37.91%). Meanwhile, negative evaluations (scores 0 to 2) were lower in the intervention area (21.29%) than in the control group (29.41%), reinforcing the view that access to healthy food is generally perceived as easier in the intervention neighbourhood. These results support the effectiveness of IN-HABIT initiatives related to food accessibility, possibly through improved infrastructure, proximity to markets like Agenskalns, or greater promotion of healthy food options within the community.

Finally, the data on residents' perceived difficulties in accessing cultural and leisure opportunities in Riga, show that in the control group, 69.93% of respondents stated they do not face any difficulties, while 16.34% reported experiencing some difficulties. A further 13.73% responded that they do not know. In the intervention group, a larger proportion of residents, 74.19%, reported no difficulties, while only 10.32% stated that they do face some. The share of respondents who answered "I don't know" was slightly higher in the intervention group at 15.48%. These results suggest a more favourable perception of cultural and leisure accessibility in the intervention area. The lower percentage of individuals reporting difficulties, combined with a higher share stating they experience no problems, reflects a likely positive impact of the IN-HABIT interventions on cultural inclusion and access. However, the relatively high proportion of "I don't know" responses in both groups, and especially in the intervention area, may indicate that some residents are either unaware of the available opportunities or not sufficiently engaged with them. This points to a potential need for improved communication and outreach to ensure cultural initiatives are visible and accessible to a broader segment of the population.



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### 3.4.3 Economic well-being in Riga

In both groups, the majority of respondents are in full-time employment. Specifically, 68.63% of the control group and 69.03% of the intervention group report being employed full-time, indicating a similar and stable employment structure across both contexts. This suggests that the intervention and control areas are comparable in terms of formal labour force participation.

Looking at unemployment, a more distinct difference emerges. In the control group, 7.84% of respondents report being unemployed, while in the intervention group the figure drops significantly to 3.87%. This nearly four-point gap may reflect the positive impact of local initiatives on employability and inclusion, particularly those targeting vulnerable groups through training, job opportunities, or social enterprise.

Among students or individuals in education, apprenticeship, or internship, the numbers are very low in both groups. No respondents in the control group identified with this category, while only 0.65% of those in the intervention group did. This suggests that the survey samples are composed largely of working-age adults outside the formal education system. When considering other employment forms, such as self-employment and part-time work, there are some variations. Self-employment is slightly more common in the intervention group, at 8.39% compared to 5.88% in the control group, which may be linked to entrepreneurial or freelance opportunities encouraged within the intervention area. Part-time employment is slightly less frequent in the intervention group, at 3.23% versus 5.23% in the control, while the proportion of retired respondents is similar in both groups (10.32% in the intervention area and 11.11% in the control).

In summary, while full-time employment rates are nearly identical in both groups, the intervention area shows lower unemployment, slightly more self-employment, and a broader distribution in non-standard employment types. These differences may signal a



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positive influence of IN-HABIT initiatives in supporting labour inclusion and diversifying economic participation within the intervention neighbourhood.

The financial condition of the respondents also seems to be good. In the intervention group, 22.58% of respondents consider their financial condition to be above average, compared to 18.95% in the control group. This suggests a more positive self-perception of economic well-being among those living in the intervention area. Similarly, 60% of respondents in the intervention group believe their financial situation is on par with the neighbourhood average, slightly higher than the 53.59% in the control group. This points to a stronger sense of economic stability or parity within the intervention neighbourhood.

The share of respondents who consider themselves below average is noticeably lower in the intervention area, at only 8.39%, compared to 15.69% in the control group. This significant gap of over seven percentage points may indicate either a real improvement in economic conditions or a perception of improved financial standing in the intervention area. Altogether, these results suggest that residents in the intervention area tend to perceive their financial situation more positively and with greater certainty than those in the control group. This may reflect not only actual differences in economic conditions but also the influence of improved neighbourhood environments, social inclusion efforts, or increased access to resources introduced through the IN-HABIT interventions.

### 3.4.4 GDEI analysis in Riga

This section gives an overview of the key findings regarding the situation of socio-economic well-being and healthy lifestyles of the groups at risk of discrimination and exclusion in Riga. The GDEI analysis of the baseline should be interpreted with caution though, as the number of observations in some of the target groups can be too modest to be reliable.

#### Women

The sample is made by 181 women, of which 96 are in the control group and 85 in the intervention group. The ex-post quantitative study in Riga has detected less differences



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based on gender on some key impact indicators with respect to the baseline study. The following are the key differences observed.

- Women feel less safe (scores 0, 1 and 2) than men when walking alone after dark (48.62% vs. 31.97%).
- Women tend to perceive their financial condition above the neighbourhood average slightly less than men (18.23% vs. 24.59%).
- Women find it easier to eat healthy food in their neighbourhood than men (43.64% vs. 33.61%).
- Women are predominantly responsible for food preparation within households, with 83.97% of female respondents indicating that they usually prepare food, compared to only 50% of male respondents.
- Women spend more time than men on food preparation (73.48% of women spend 30 minutes to 2 hours compared to 66.39%).

### Elderly and young people

Adopting the classification used in the baseline study, where individuals under the age of 35 are considered young and those over 65 are classified as elderly, the ex-post sample includes 60 young participants and 46 elderly participants. These subsamples are sufficiently large to allow for meaningful analysis.

- The elderly are less likely to exercise than the young (39.13% of the elderly have not done any physical activity in the past two months, compared with 28.33% of the young).
- The elderly feel less safe (scores 0, 1 and 2) than the young when walking alone after dark (60.88% vs. 35%).
- It is less easy for the elderly to find healthy food in their neighbourhood than for the young. (16.67% vs. 28.26%).
- It is more difficult for elderly individuals to eat healthy food compared to younger people, primarily due to cost: 36.96% of elderly respondents consider healthy food too expensive, compared to 23.33% of younger respondents.



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- More elderly respondents (15.22%) report that it is *not easy at all* to find help from others in their neighbourhood, compared to only 3.33% of young people.
- Elderly individuals are more likely to talk with neighbours about a community problem than young people, as only 30.43% of elders report never discussing such issues, compared to 46.67% of young respondents.

### LGBTIQ+ people

The responses to the question on sexual orientation show that the vast majority of participants identify as heterosexual/straight, with 237 respondents, making up the overwhelming portion of the sample. Other orientations are represented in much smaller numbers: 12 respondents identify as bisexual, 8 as gay men, 6 as lesbian or gay women, and 2 as other. A significant portion of the sample, 43 individuals, chose the option “prefer not to answer,” indicating a degree of sensitivity or discomfort around disclosing sexual orientation. This is the second-largest category after heterosexual, suggesting that while the survey captured some diversity in sexual orientation, social or privacy concerns may limit the full visibility of this diversity in the data. Overall, the data reflect a predominantly heterosexual sample, with limited but present representation of LGBTIQ+ identities, and a noteworthy level of non-disclosure. Despite the small representation of LGBTIQ+ individuals in the sample, the analysis evidences two interesting results.

- Perceptions of low safety (scores 0–2) when walking alone after dark are highest among lesbian/gay women (66.7%), followed by heterosexuals (40.9%) and bisexual individuals (33.3%), while no gay men reported low scores, highlighting significant disparities in feelings of vulnerability across sexual orientation groups.
- Difficulties in finding help from others (scores 0–2) are most reported among gay men (62.5%), those who preferred not to disclose their orientation (58.1%), and heterosexuals (54.0%), followed by bisexuals (41.7%) and lesbian/gay women (33.3%), with no group (except for heterosexuals and those who did not report their sexual orientation) reporting high ease (score 5), highlighting widespread challenges in perceived neighbourhood support across all orientations.



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### Persons with disabilities

Only 39 respondents reported having a form of disability. The number of interviews is small to detect associations reliably, but possible differences were detected on key impact indicators.

- Approximately half of the respondents with disabilities find that green areas are difficult to access for persons with disabilities (as indicated by scores between 0 and 2) against the 32% of people with no disabilities.
- Approximately half of the respondents with disabilities consider their financial condition to be on par with that of their neighbourhood, compared to 58% of respondents without disabilities.
- 64% of respondents with disabilities report difficulty (scores 0-2) in finding help from others in their neighbourhood, compared to 52% of those without disabilities.

### Ethnic minorities

In Riga, 40 respondents identified as being part of an ethnic minority. Respondents who identify as belonging to an ethnic minority report slightly more difficulty in finding help in their neighbourhood compared to those who do not. Among ethnic minorities, 47.5% gave low scores (0–2), compared to 55.1% of non-minorities. Consequently, ethnic minorities are more likely to rate the experience positively, with 52.5% selecting scores 3–5, including 7.5% who find it very easy. However, the data show that respondents belonging to ethnic minorities experience slightly more difficulty in accessing adequate social and health assistance compared to those who do not. Among ethnic minorities, 45% gave low scores (0–2), while 41% gave medium-to-high scores (3–5), with only 2.5% selecting very easy. In comparison, non-minority respondents reported 40.9% for low scores and 59.1% for scores 3–5, including 6.7% who found access very easy.

### Religious minorities



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The majority of respondents identify with Christianity (152 individuals), making it by far the most represented religious affiliation in the sample. Atheism follows with 52 respondents, while Agnosticism accounts for 12. Smaller numbers are recorded for Islam (1), Judaism (2), and Hinduism (1), reflecting limited representation of non-Christian religious minorities. A notable portion of the sample, 64 respondents, chose “Prefer not to say,” and 24 selected “Other,” suggesting either religious diversity not captured by the listed categories or a reluctance to disclose religious identity. Overall, the data reflect a predominantly Christian sample, with a visible presence of non-religious individuals and a degree of non-disclosure. Religious minorities are underrepresented in the sample, as a result, there is not sufficient data to support meaningful comparisons across religious groups.

### 3.5 Qualitative evaluation

#### **The Market in 2025: A Living Space for Community, Sustainability, and Wellbeing**

Since 2022, researchers from BSC have conducted regular fieldwork at Āgenskalns Market in Riga. While systematic observations began in earnest in the spring of 2024, it was the year 2025 that brought a significant evolution in the way the market was perceived and used by its visitors. The final field observation was completed in July 2025, and in total, 34 detailed observation reports collected across 2024 and 2025 have shaped a nuanced understanding of how this historic market has transformed—not only as a place of commerce but also as a vital social and cultural hub.

Throughout 2025, the market stood out as a dynamic and inclusive space that actively shaped, and was shaped by, the people who used it. Compared to 2024, when the emphasis in observations leaned heavily toward community belonging and routine social interactions—particularly among local retirees—the 2025 reports highlight a noticeable shift toward themes of health, sustainability, and environmental awareness. These themes



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were especially pronounced during spring and summer events, many of which were co-organized with local groups as part of the project’s participatory outreach efforts.

### **A Changing Crowd and a Stable Core**

The demographic profile of the market in 2025 remained diverse, but clear trends emerged. While pensioners continued to be the most consistent daily visitors—forming a social microcosm rooted in trust and routine—the market attracted a visibly growing number of younger people, families, and international visitors. Young families were especially prominent on weekends, with observations frequently describing the market square as a “playground of the day” where children freely played and improvised games among the stalls.

The spring and summer of 2025 also saw a rise in student participation, especially in events related to sustainability and healthy eating. Reports describe these younger visitors as being more engaged with workshops, more likely to use digital devices to document their experiences, and more inclined to see the market as a cultural and educational space. This marked a subtle but significant generational shift—suggesting that the market is not just a nostalgic space for older visitors but a future-oriented venue drawing the attention of younger, socially conscious city dwellers.

Tourists, especially during the summer months of 2025, were also an integral part of the market’s ecosystem. The blend of languages—English, German, Russian—was frequently noted by observers, and while occasional communication barriers surfaced, they rarely disrupted the overall welcoming atmosphere. Reports from this period detail a growing informality and warmth in interactions, with many vendors demonstrating adaptive strategies to connect across language gaps.

### **Interactions and Shared Moments**



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In 2025, social interactions at the market continued to deepen. What emerged clearly from the observational data was the market’s ability to spark spontaneous connections—between friends and strangers, across generations, and among different cultural groups. Everyday exchanges remained central: pensioners continued to greet their preferred vendors warmly, often engaging in conversations that extended beyond the transaction. But there was also an increase in cross-group interactions—such as children initiating games with strangers, or visitors spontaneously joining in communal activities like cooking demos or musical performances.

Several episodes documented in 2025 observations illustrate this vibrancy. In one case, during a spring festival, children from multiple families began playing with a ball, eventually joined by adults. In another, a young man, after attending a healthy food workshop, was overheard saying that the vegetables from the market “taste real, unlike in supermarkets.” These moments reflect the emotional and sensory richness of the market space in 2025—a place where learning, play, memory, and connection intertwine.

Conflicts and misunderstandings were not absent, especially when large crowds gathered during events. However, such moments were rare and often resolved with compromise. The general tone of interactions in 2025 was one of mutual care and small but meaningful gestures—visitors helping each other carry bags, vendors offering water on hot days, and strangers exchanging tips and stories while waiting in line.

### **A Flexible, Inclusive Space for Wellbeing**

The physical space of the market in 2025 reflected its growing multifunctionality. Benches and outdoor areas became gathering places for people to rest, eat, or even work. Young people were often seen using these spaces for social media activity, while elderly visitors continued to incorporate the market into their daily walking routines. Observers frequently



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described the market as a “public living room”—a place that allowed both routine and novelty to coexist.

Importantly, health and wellbeing emerged as defining features of the 2025 experience. The availability of fresh produce—particularly organic and local—was noted as a motivating factor for many visitors. For pensioners, affordability and familiarity remained key, while younger generations were drawn by quality and ethical considerations. Light physical activity—such as slow walks, casual browsing, and the effort involved in navigating the space—was seen as beneficial, especially for older adults. More than one visitor commented that the market made them “feel alive,” thanks to the constant movement, energy, and diversity of people around them.

Inclusion was also central in 2025. Migrants, tourists, people with disabilities, and families from various backgrounds were seen actively participating in the market’s life. Though some infrastructural challenges remained, such as narrow walkways and uneven surfaces, the atmosphere was widely perceived as accommodating. Repeated gestures of help—offered by vendors and fellow visitors alike—underscored a shared ethic of care that complemented the physical environment.

## Events and Feedback in 2025

The year also saw an increase in organized events, especially during spring and summer. Six of these events, co-created with local groups and supported by the project, became opportunities not only for public engagement but also for gathering direct feedback from participants. Short post-event questionnaires, though limited in number, confirmed several trends observed by researchers: a marked increase in satisfaction with local amenities, a stronger sense of community, and perceived improvements in wellbeing, all of which were frequently linked to activities at the market.



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These responses further support the observational data showing that by 2025, Āgenskalns Market had become much more than a commercial space. It had evolved into a flexible, inclusive, and culturally rich environment—a place that responds to the rhythms and needs of its visitors, while continuing to foster everyday connections and promote shared values around health, sustainability, and urban community life.

### Synthesis of results

In Riga, quantitative findings show consistent and sizeable positive differences between intervention and control areas across multiple dimensions. Residents in intervention neighbourhoods report higher access to green areas (70.97% vs. 58.82%), better maintenance of green spaces (74.19% vs. 62.09%), higher accessibility for persons with disabilities (70.97% vs. 59.48%), greater ease of participating in cultural activities (62.58% vs. 40.52%), and lower unemployment rates (3.87% vs. 7.84%). These outcomes indicate a broad-based improvement in spatial, social, and economic well-being.

Focus group discussions suggest that these results are driven by the interaction of physical improvements and participatory governance mechanisms. Participants reported increased usability and safety of public spaces, stronger community ownership, and greater visibility of local activities, which together fostered social activation and inclusion. Policy implications for Riga point toward the scalability of VIS within the framework of the European Green Deal and the EU Urban Agenda. In particular, the evidence supports policies that integrate nature-based solutions, accessibility standards, and participatory design into mainstream urban planning, using neighbourhood-level indicators to monitor inclusive and just urban transitions.



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## 4 Lucca

### 4.1 Lucca's solutions and target groups

#### General Objective and Vision of the Lucca Pilot Project

The Lucca pilot aims to foster inclusive mental health, as well as social and relational well-being among residents of the city, through the development of Europe's first Human-Animal (Hum-an) smart city. The initiative has three main objectives: (i) enhancing the overall quality of urban life; (ii) reducing experiences of marginalization, isolation, and exclusion among vulnerable groups, particularly individuals with disabilities, those living alone, and older adults; and (iii) supporting inclusive economic growth and encouraging shared stewardship of urban commons.

#### Planned Visionary and Integrated Solutions (VIS):

- Redevelopment of underutilized green spaces around the Medieval walls, along with improvements to accessibility, signage, and smart lighting systems;
- Creation of green playgrounds, therapeutic gardens, green corridors, and designated areas for rest and services such as toilets and food kiosks;
- Multi-purpose recreational areas designed for both humans and animals, equipped with leisure and sports facilities and shared service zones;
- Adaptation of public transport and public buildings to ensure they are animal-friendly;
- Implementation of educational initiatives in schools involving interaction with animals;
- Development of a board game aimed at engaging students on Hum-an themes;
- Outdoor animal-assisted activities, including recreational, social, and fitness programs, delivered in collaboration with local healthcare providers and NGOs;
- Organisation of Hum-an marathons, open-air games, creative workshops (e.g., storytelling, painting, play), guided tours, and family-friendly educational and entertainment services, including opportunities for observing animals in nature;



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- Provision of digital tools through the IN-HABIT APP (developed by BOT and LCREA), offering interactive location-based services, event mapping, gamified content, and social networking features.

Specifically, the **intervention group** consists of Lucca residents, while the **control group** consists of people who reside outside Lucca.

## 4.2 The ex-post study in Lucca – Key features

The interviews were conducted online (computer-assisted interview). The intervention group consisted of 72 respondents, while the control group consisted of 115. The majority of respondents are female (69%), followed by males (29.9%), and only 2 individuals preferred not to reveal their gender. There are only 3 respondents with disabilities, while from the perspective of religion, there was no specific question in the questionnaire. The LGBTIQ+ community is overwhelmingly underrepresented as only 4.8% identify themselves in this category, while 86.6% are heterosexual.

The average age is 39 years ( $\pm 15$ ), with the youngest being 19 years old and the oldest 79 years old. 98.4% of respondents have national citizenship. Nearly 30% of respondents have a master's degree and 41% have full-time employment. Finally, only 26% of respondents is married.

## 4.3 The context of Lucca

Lucca is situated in the northern part of Tuscany, bridging central and northern Italy. It serves as both a city and the administrative centre of the province bearing the same name. In 2023, Lucca had a population of approximately 89,200 residents.<sup>6</sup> At that time, around 14% of the population was aged 75 or older, while only 6.9% were aged 9 or younger.

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<sup>6</sup> <https://www.tuttitalia.it/toscana/53-lucca/statistiche/popolazione-andamento-demografico/>



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Tourism, creative industries, and cultural tourism play a central role in Lucca's local economy.

Socially and spatially, Lucca is defined by a divide between those residing inside the historic city walls and those living outside them. This separation is deepened by the ageing population, as many older residents continue to live within the old city centre, while younger and more active demographics are increasingly located outside the walls. The IN-HABIT pilot intervention in Lucca focuses on green spaces surrounding the historic core of the city. Due to Lucca's compact size and the circular design of the medieval city walls, the intervention strategy begins from this elliptical layout, allowing for a coherent and spatially integrated implementation of the planned solutions.

The baseline study revealed that more than half of the respondents in the intervention group reported difficulties in **accessing cultural and leisure opportunities** within their neighbourhood. Additionally, participants in the qualitative study highlighted a perceived competition between local residents and tourists for access to cultural activities. They also identified barriers related to mobility, such as inadequate public transport and limited parking, as well as issues concerning the quality and inclusiveness of cultural offerings, many events were seen as targeted primarily at tourists or poorly advertised by local associations. In contrast, **digital access** did not appear to be a significant barrier, as nearly all participants reported having internet access. In the ex-post study, more than half of the respondents (55%) rated access to cultural opportunities as relatively easy, assigning scores of 3, 4, or 5 on the scale 0-5 scale.

Regarding the **perceived personal condition of discrimination**, less than a tenth (6%) of respondents from Lucca perceive themselves to be a member of a discriminated group in the baseline study. The ex-post study shows an increase in the percentage of respondents who reported having experienced discrimination at some point in their lives, now reaching 14.4% of the sample.



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Regarding **healthy lifestyles**, the baseline study shows that more than half of the respondents from Lucca were satisfied with their overall health status. However, only about 30% reported engaging in physical exercise at least once per week, indicating a gap between perceived health and actual levels of physical activity. Although this specific question was not included in the ex-post study, 43% of respondents reported spending at least one hour per working day on sport or leisure activities in green areas.

Regarding **time devoted to pets**, the baseline study in Lucca showed that 57% of respondents spent one hour or more per day playing with or caring for their pets. In the ex-post study, this percentage remained relatively stable, with 51% reporting the same level of daily interaction.

Finally, in the Lucca baseline study, about 30% of respondents reported that their **financial situation** was either insufficient or just barely sufficient to meet their needs. In the ex-post study, the majority (61%) stated that their financial condition was in line with that of their neighbourhood, while only 11% perceived their situation as below the neighbourhood average.

## 4.4 The ex-post study in Lucca – Results

### 4.4.1 Social well-being in Lucca

The baseline study highlighted widespread dissatisfaction with social relationships within the neighbourhood. Participants in the focus group described local residents as generally “closed,” noting the difficulty of forming meaningful and lasting connections beyond one’s immediate circle of friends. The overall picture that emerged was one of social fragmentation, with the community perceived as divided into small, insular groups that rarely interact with one another. In addition, the study revealed a low level of perceived support, both in terms of social networks and institutional resources. Only 21% of



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respondents agreed that there are associations, neighbourhood committees, or citizen groups available to offer help when needed, indicating a limited sense of community support among the target population.

These figures improved in the ex-post study, particularly among respondents in the intervention group. Nonetheless, there were no big differences between the intervention and control groups. In particular, Figure 4.A compares respondents' feelings of safety across different situations, distinguishing between the intervention and control areas. Overall, the data indicate a moderate to high perception of safety in both areas, with some variation depending on the specific context.

When it comes to leaving a vehicle unattended, only around 55.6% of respondents in the intervention area and 57.4% in the control areas feel safe (scores 3–5). The perception of insecurity is relatively high in both groups (over 42%), suggesting this is a common concern regardless of location.

In the case of walking alone after dark, both groups show nearly identical levels of perceived safety: 58.3% in the intervention area and in the control areas feel safe, while around 41.7% do not. This reflects a stable but somewhat divided sentiment, with a significant portion of respondents still feeling insecure at night.

Perceptions improve significantly for walking alone in public green areas, where 84.7% in the intervention area and 82.6% in the control areas feel safe. The difference is small but slightly in favour of the intervention area.

The highest levels of perceived safety are observed for walking alone during the day, with 91.7% in the intervention area and 92.2% in the control areas feeling safe. Insecurity during daytime is very limited in both contexts (8.3% and 7.8%, respectively), indicating strong overall confidence in daytime safety.



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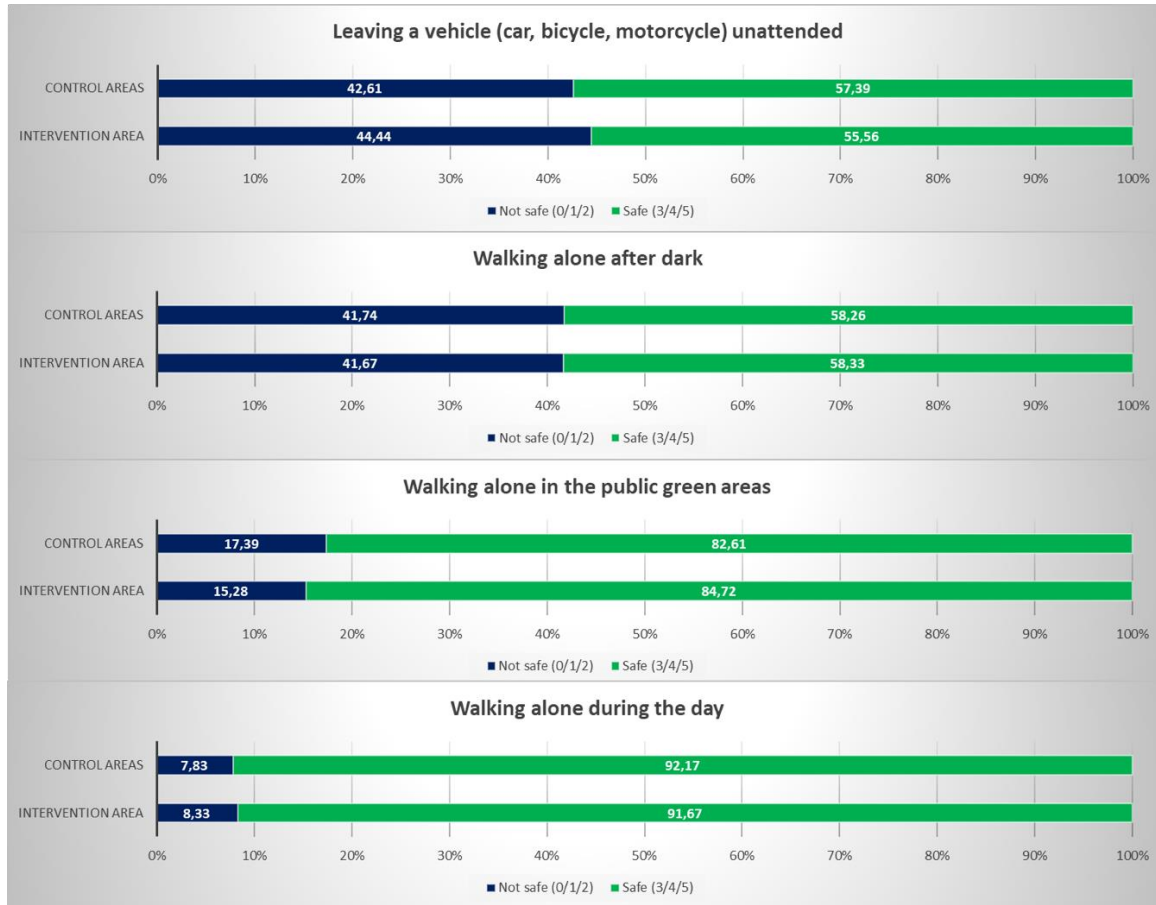


Figure 4.A Perception of security in Lucca (survey data: self-selection + snowball sampling).  
 Sample size = 187, intervention group size = 72, control group size = 115

In summary, the perception of security is high across most scenarios, particularly in public green areas and during the day, while the differences between intervention and control areas are relatively small. However, concerns remain about leaving vehicles unattended and walking alone after dark, highlighting areas where further improvements could be targeted.



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We tested whether the difference in positive answers (safe) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 4.A were statistically significant (p-values from the top barplot to the bottom are 0.81, 0.99, 0.71, and 0.90).

Figure 4.B shows the frequency with which residents engage in various civic, cultural, and community-related activities, comparing respondents in the intervention and control areas. Overall, the data reveal modest levels of active participation, with most respondents indicating infrequent engagement (less than once a month), though some variation emerges between the two groups. Participation in democratic life at the city level is infrequent in both groups, with 92.2% of respondents in control areas and 91.7% in the intervention area engaging less than once a month. Involvement in neighbourhood cultural, social, or voluntary activities is slightly more frequent: 22.2% of respondents in the intervention area report participating at least once a month, compared to 19.1% in the control area. This suggests a small positive effect of the intervention on local cultural engagement. A similar pattern is seen for volunteering in the care of public spaces and green areas, where 8.3% of respondents in the intervention area report regular participation, compared to 5.2% in the control areas. While participation overall remains low, the difference may indicate that IN-HABIT activities are having some effect on fostering community stewardship. For community problem-solving, the trend is reversed. In the intervention area, only 12.5% of residents report engaging in problem-solving once a month or more, compared to 15.7% in the control areas. This suggests that while civic infrastructure may exist, active involvement in local governance remains limited. Rates of informal conversations with neighbours about community issues are similar in both areas, with about 41% of respondents engaging monthly or more. This shows a consistent baseline of informal community dialogue across the city. The most frequent activity overall is socializing in public spaces with friends or relatives, with 58.3% of respondents in the intervention area and 55.7% in the control areas



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doing so at least once a month. This suggests that public spaces are primarily used for informal social interaction, more than for civic or collective action.

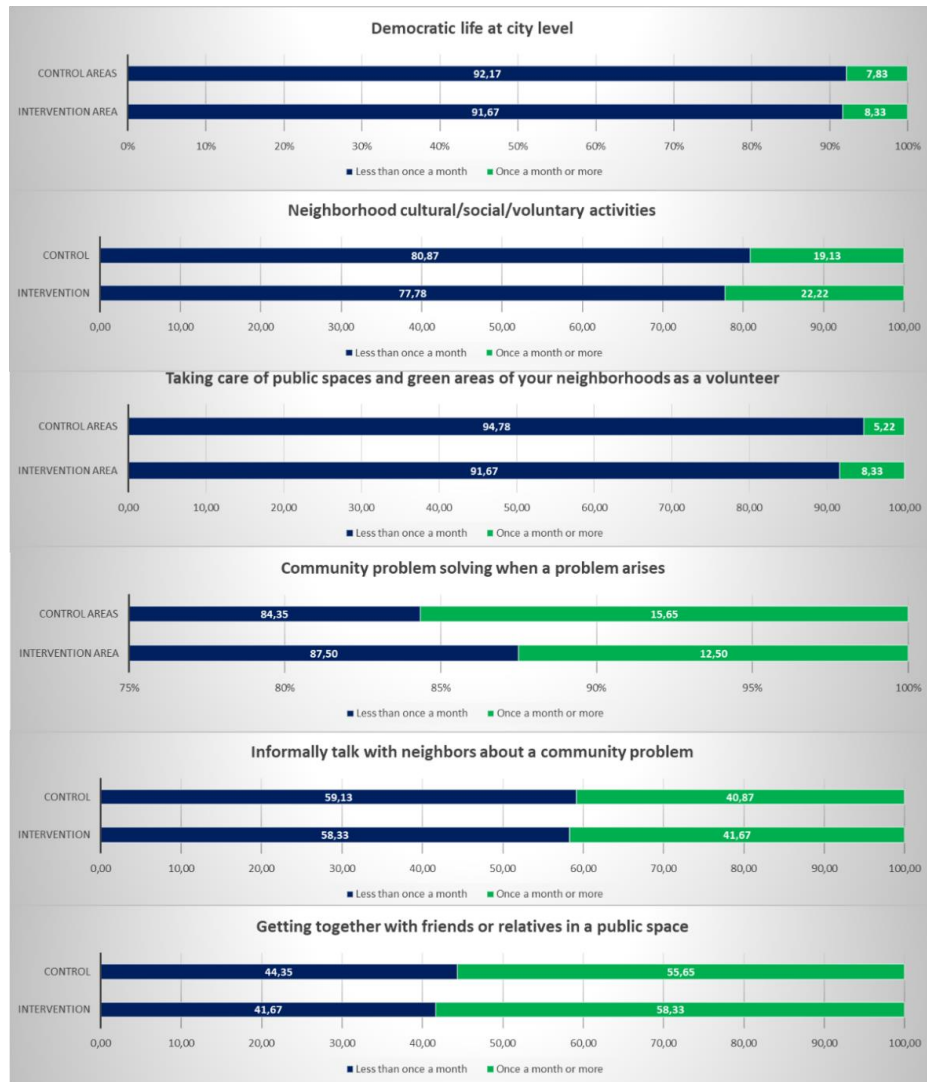


Figure 4.B Socio-cultural engagement and relations in public spaces: how often do people engage in the following activities in Lucca (survey data: self-selection + snowball sampling). Sample size = 187, intervention group size = 72, control group size = 115



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In summary, while active civic engagement remains relatively low, particularly in democratic and volunteering contexts, there are slightly higher rates of participation in the intervention area in cultural activities, green space volunteering, and social use of public spaces. These findings suggest that the IN-HABIT interventions may be helping to modestly increase social and cultural engagement in targeted areas.

We tested whether the difference in positive answers (once a month or more) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 4.B were statistically significant (p-values from the top barplot to the bottom are 0.90, 0.61, 0.40, 0.54, 0.91, and 0.73).

Figure 4.C shows how respondents in the intervention and control areas perceive the ease of accessing various services and public amenities in their neighbourhoods. Responses are categorized into two groups: those who found access easy (scores 3, 4, or 5) and those who found it not easy (scores 0, 1, or 2). Access to cultural events is reported to be relatively easy by a slight majority in both groups, with 58.3% in the intervention area and 54.8% in the control areas. The intervention area shows a small improvement, suggesting that cultural initiatives may be gaining visibility and accessibility.

Green spaces, both for general recreation and for sports, are widely perceived as accessible. Over 79% in both groups find safe, accessible, and pleasant green areas easy to access, and a similar share report green spaces for sport are accessible. Differences between intervention and control areas are minimal here, suggesting city-wide satisfaction with green infrastructure. On the other hand, playgrounds for children show a more noticeable difference. In the intervention area, 70.8% find them accessible versus 81.7% in the control



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area. This suggests some room for improvement in the intervention zone with respect to child-friendly infrastructure.

Access to help from others is perceived as difficult by the majority in both groups, with 58.3% of respondents in the intervention area and 55.7% in the control areas rating it as not easy. This indicates a broader issue of limited perceived neighbourhood support. Perceptions around social and health assistance show a significant difference. In the control areas, 59.1% rate access as easy, compared to just 48.6% in the intervention areas. This suggests that, despite interventions, barriers to social and healthcare services remain in the targeted neighbourhoods.

For healthy food, perceptions are positive in both areas, with 79.2% in the intervention group and 77.4% in the control group finding it easy to access. Similarly, moving on foot is overwhelmingly rated as easy by both groups, especially in the intervention area where 91.7% report no difficulty.

The highest contrast is observed in cycling accessibility: 90.3% in the intervention area report it as easy, compared to 82.6% in the control group. Finally, access to green areas for animals is rated as easy by about 70% in both groups, with a slight advantage in the intervention area. This reflects some success in efforts to integrate animal-friendly spaces into urban planning.

In summary, the intervention area shows improvements or parity across most dimensions, especially for mobility, healthy food, and cultural activities. However, access to help from others and social/health services remains a challenge, even in the intervention zones, highlighting key areas for further development.

We tested whether the difference in positive answers (easy) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At



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the 95% confidence level, none of the differences in Figure 4.C were statistically significant (p-values from the top barplot to the bottom are 0.64, 0.88, 0.08, 0.46, 0.72, 0.16, 0.77, 0.14, 0.40, and 0.76). At the 90% confidence, only the difference for the question “Finding children playgrounds” is statistically significant.

Figure 4.D present residents’ perceptions of the quality, inclusiveness, and use of public green spaces, comparing responses from the intervention and control areas. Overall, the data show a generally high level of satisfaction in both groups, with slightly more positive evaluations in the intervention area.

Very few respondents in either group agree with the statement “*I do not frequent any public green area,*” confirming widespread use of green spaces. Only 13.9% in the intervention area and 14.8% in the control area agreed with this statement, indicating similar and high levels of engagement with public green areas. In terms of maintenance, respondents in the intervention area express greater satisfaction, with 63.9% agreeing that green areas are well maintained, compared to 58.3% in the control area. This suggests that interventions may have had a positive impact on upkeep and appearance.

Regarding infrastructure for dogs, satisfaction is moderate in both areas but slightly higher in the intervention group (48.6% vs. 46.1%), showing small improvements in pet-friendly amenities. Perceived accessibility for persons with disabilities remains the same across both groups (55.6% vs. 55.7%), indicating that additional efforts may still be needed to improve inclusivity for people with disabilities.

A stronger contrast appears in the perception of green areas as pleasant and beautiful places to spend free time. In the intervention area, 81.9% agree with this statement compared to 73.0% in the control area, suggesting a marked improvement in the quality and attractiveness of green spaces due to the interventions.



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Perceptions of intergenerational use are also more positive in the intervention area: 87.5% agree that green areas are frequented by people of all ages, compared to 79.1% in the control area. This indicates that the spaces in the intervention zone may be more welcoming or better designed for diverse age groups. Finally, when **considering ethnic inclusivity**, 79.2% of respondents in the intervention area believe that green areas are frequented by people of all ethnicities, versus 72.2% in the control area. This difference suggests a slightly more inclusive social environment in the intervention zones.

In summary, satisfaction with green areas is high in both the intervention and control areas, but the intervention zone shows consistently more positive evaluations, particularly regarding maintenance, aesthetics, inclusivity, and multi-generational use. These findings reflect the potential effectiveness of the IN-HABIT interventions in enhancing the quality and social value of urban green spaces in Lucca.

We tested whether the difference in positive answers (agree) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 4.D were statistically significant (p-values from the top barplot to the bottom are 0.87, 0.45, 0.74, 0.99, 0.16, 0.14, and 0.28).



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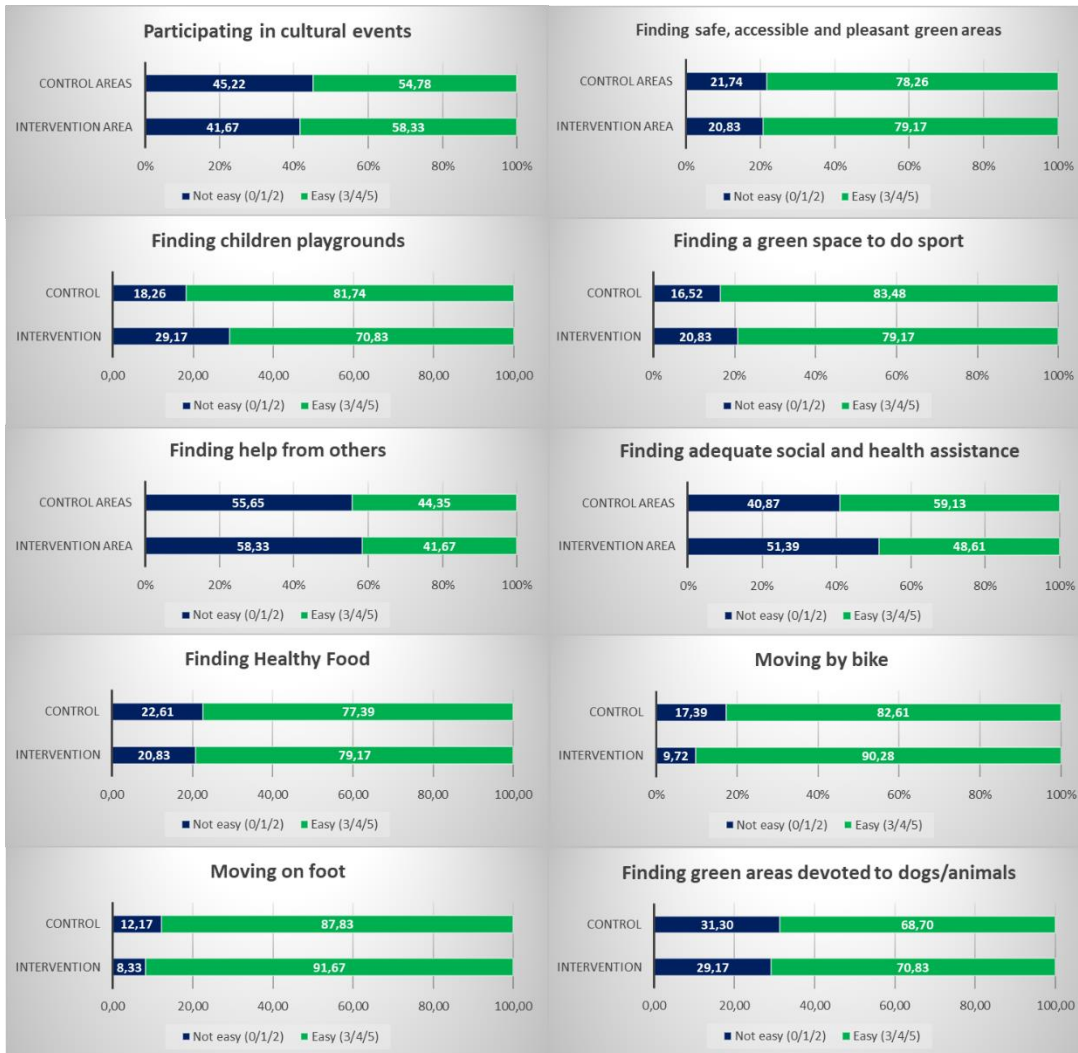


Figure 4.C Accessibility of local resources in Lucca: how easy is to find the following resources in the neighbourhood (survey data: self-selection + snowball sampling). Sample size = 187, intervention group size = 72, control group size = 115



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Figure 4.D Satisfaction with urban green areas in Lucca (survey data: self-selection + snowball sampling). Sample size = 187, intervention group size = 72, control group size = 115

#### 4.4.2 Healthy lifestyles in Lucca

Healthy lifestyles in Lucca have been measured through different dimensions. The data illustrating how much time respondents typically spend during a working day engaging in activities such as playing, relaxing, or doing sports in public green areas show that in the



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intervention group, there is a higher frequency and duration of use of green areas. Specifically, 9.7% of respondents in the intervention group spend 2 to 3 hours per day in green areas, compared to only 4.3% in the control group. Additionally, 8.3% of the intervention group spend more than 3 hours, versus just 2.6% in the control group. The share of respondents who never use green areas is also lower in the intervention group (13.9%) compared to the control group (22.6%), suggesting a positive effect of the interventions. While minimal use is similar across groups, a greater proportion of people in the intervention group dedicate more time to outdoor activities in green spaces, indicating improved accessibility, attractiveness, or usability of these areas following the intervention.

The comparison between the control group and the intervention group shows that both groups generally perceive access to green sports spaces as good, but with some differences in distribution. In the control group, 35.7% of respondents rated access as very easy (score 5), and 25.2% gave it a score of 4, meaning over 60% view access positively. Only a small share, 1.7%, rated it as *not at all* easy (score 0). In the intervention group, slightly fewer respondents (30.6%) rated access as very easy, while 29.2% gave it a score of 4. Overall, 60% gave a score of 4 or 5, nearly equivalent to the control group. Lower scores (0–2) are relatively infrequent in both groups. Access to green areas for sports is perceived as fairly easy by the majority in both groups, with only minor differences. While the control group has a slightly higher share of very positive ratings, the intervention group shows a broader spread, with slightly more respondents rating access as moderate or somewhat difficult.

The data show how easy respondents find moving around on foot in their neighbourhood, based on a 0-5 scale where 0 means not at all easy and 5 means very easy. Perceptions are very positive overall in both the control and intervention groups, with particularly high scores in the top two categories. In the intervention group, 55.6% of respondents rated walking as very easy (score 5), slightly higher than the 50.4% in the control group. Similarly, 25% in the intervention group and 24.3% in the control group gave a score of 4, confirming that the large majority in both groups find walking easy. Lower scores (0–2) are very rare in



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both samples. Only 12.2% of the control group and 8.3% of the intervention group rated ease of walking between 0 and 2, indicating minimal barriers to pedestrian mobility in either context. Similar figures emerge for how easy is to move by bike. Overall, both the control and intervention groups show a high level of satisfaction, with the intervention group reporting slightly more positive perceptions. In the intervention group, 45.8% of respondents rated cycling as very easy (score 5), compared to 42.6% in the control group. Additionally, 29.2% in the intervention group selected score 4, higher than the 23.5% in the control group. Combined, over 75% of respondents in the intervention group view cycling as easy (scores 4 or 5), compared to around 66% in the control group.

The data also show how respondents perceive the ease of finding healthy food in their neighbourhood, using a scale from 0 (not at all easy) to 5 (very easy). In the intervention group, the perception is slightly more favourable: 25% of respondents rated it very easy (score 5), compared to 17.4% in the control group. Additionally, 34.7% in the intervention group gave a score of 4, slightly below the 37.4% in the control group. Altogether, 79.2% of respondents in the intervention group rated access to healthy food between 3 and 5, compared to 77.4% in the control group. Both groups report generally good access to healthy food, but perceptions are slightly more positive in the intervention area. Importantly, in the intervention area no one indicated 0 as a score, while in the control group 4.3% indicated such score in their answer. The intervention group may reflect improved food accessibility linked to project outcomes, although there were no activities specifically related to food accessibility.

#### 4.4.3 Economic well-being in Lucca

Regarding the economic status of our respondents, data highlight several differences between respondents in the control group (0) and the intervention group (1) in Lucca, particularly regarding full-time employment, student status, and professional variety. Full-time employment is more prevalent in the intervention group, where 50% identify as full-time employees, compared to 34.8% in the control group. Similarly, self-employment or



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independent work is also more frequent in the intervention group (20.8%) than in the control group (16.5%), suggesting greater labour market engagement overall in the intervention area.

The control group has a significantly higher share of students, apprentices, or interns, with 39.1% compared to just 9.7% in the intervention group. This suggests a younger or more transitional profile in the control sample. Unemployment appears slightly higher in the intervention group (2.8%) versus 1.7% in the control, and pensioners are also more represented in the intervention area (5.6%) than in the control (0.9%), indicating a potentially broader age distribution in that group.

The intervention group features a more diversified employment profile with a higher presence of full-time and self-employed workers, retirees, and specific professions, whereas the control group is characterized by a higher concentration of students and early-career individuals. These differences may reflect broader demographic contrasts between the two groups, such as age or life stage, which could influence how they engage with IN-HABIT interventions and local resources.

Regarding how respondents perceive their own (or their family's) financial situation in comparison to that of others in their neighbourhood, in both the control and intervention groups, the majority consider their financial condition to be in line with the neighbourhood average, with slightly higher agreement in the intervention group (65.3%) compared to the control group (59.1%). This suggests a relatively stable sense of economic parity within each community.

A higher proportion of respondents in the control group perceive themselves as financially above average (19.1%) compared to 15.3% in the intervention group. Conversely, those who consider themselves below average are slightly more common in the control group (12.2%) than in the intervention group (9.7%), indicating slightly greater perceived financial



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hardship among control respondents. In summary, the data suggest a slightly more positive perception of financial stability in the intervention group, with fewer respondents identifying as below average and a higher share reporting parity with their neighbourhood. This may reflect modest improvements in perceived well-being associated with the intervention context.

#### 4.4.4 GDEI analysis in Lucca

##### Women

The sample is made by 129 women, of which 83 are in the control group and 46 in the intervention group. The ex-post quantitative study in Riga has detected similar differences based on gender on some key impact indicators to the baseline study. The following are the key differences observed.

- Women feel less safe (scores 0, 1 and 2) than men when walking alone after dark (55.81% vs. 8.93%).
- Women feel less safe (scores 0, 1 and 2) than men when walking alone in public green areas (22.48% vs. 3.57%).
- Women feel less safe (scores 0, 1 and 2) than men when walking alone in public green areas (10.85% vs. 1.78%).
- Women tend to perceive their financial condition above the neighbourhood similarly to men (18.60% vs. 16.07%).
- Women find it more difficult to find healthy food in their neighbourhood than men (73.64% vs. 87.50%).
- Women are more likely to own a pet than men (72.09% vs. 58.93%).

##### Elderly and young people

Adopting the classification used in the baseline study, where individuals under the age of 35 are considered young and those over 65 are classified as elderly, the ex-post sample



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includes 88 young participants and only 9 elderly participants. The elderly subsample is too small to allow any meaningful comparative analysis.

### **LGBTIQ+ people**

The data show that the majority of respondents, 162 in total, identify as heterosexual. A smaller portion, 6 respondents, identify as bisexual, while 2 identify as gay men. Additionally, 16 individuals preferred not to disclose their sexual orientation. This distribution highlights a strong predominance of heterosexual individuals in the sample, with limited representation from LGBTIQ+ groups. The small number of non-heterosexual respondents suggests that the sample size for minority groups is too limited for statistically robust conclusions. In fact, in the control group, the vast majority identify as heterosexual (103 respondents), with smaller numbers identifying as bisexual (4), gay man (1), or choosing not to respond (6). In the intervention group, heterosexuals remain the majority (59 respondents), followed by 10 who preferred not to answer, and three respondents identifying as bisexual or gay man. While heterosexual respondents dominate in both groups, the intervention group shows a slightly higher number of participants who chose not to disclose their sexual orientation. The representation of LGBTIQ+ individuals is very limited across both groups, making it difficult to conduct meaningful subgroup analysis.

### **Persons with disabilities**

Only 3 respondents reported having a form of disability, so it is not possible to conduct any analysis.

### **Ethnic and religious minorities**

No specific question was administered to the respondents about their religion, while only three respondents were either foreigners or naturalized italians.



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## 4.5 Qualitative evaluation

### Relational Spaces and the “Hum-Animal City”: A Conversation with Daniele and Veronica

Daniele and Veronica, both dog owners and regular visitors of the IN-HABIT relational areas in Lucca, shared how these spaces have enriched their lives. For Daniele, the area has become a modern version of the traditional town bar—a place to reconnect with old friends, meet new people, and enjoy daily social interaction. Veronica discovered the space while it was still under construction and began frequenting it regularly after getting a new dog. Over time, visiting the area became a daily routine, often stretching to multiple visits depending on who was there.

Both emphasized that these dog parks offer far more than a place for pets to run; they foster human connection. A WhatsApp group originally started with a few members has grown to over 70, used to share advice, coordinate meetups, and even arrange social events like dinners or bingo. While the majority of attendees are women, a wide variety of people visit, from retirees to teenagers, creating opportunities for intergenerational exchange.

In terms of future improvements, both suggested adding agility or training equipment to enhance both canine and human experiences. While they acknowledge Lucca’s architectural limitations, they also recognize its potential—particularly the city walls, already serving as a kind of linear park.

The relational areas have also had unexpected benefits: practical help (e.g., finding an electrician), emotional support, and a way to reduce daily stress. Accessibility and convenience—like nearby parking—make a big difference, especially for working dog owners. Veronica highlighted that even those with private gardens find value in these social, interactive spaces.



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Costs of dog ownership vary: Daniele spends around €40 per month, while Veronica's expenses can exceed €100, including food and accessories. Both pointed out the financial burden of veterinary medications, suggesting regulatory changes to align pet and human drug pricing.

Lastly, they both see the “hum-animal city” concept as a vision for integrating animals into urban life in a more meaningful way—beyond ownership, toward a shared, community-based coexistence. Maintaining and expanding such initiatives, they believe, will continue to improve life for both people and their pets.

### **Reawakening Connection: Two stories on human-Animal Interventions and Co-Designed Care in Lucca's IN-HABIT Project**

Two stories collected in Lucca offer an in-depth look into how the IN-HABIT project has introduced new ways of fostering well-being, emotional engagement, and community-building among the elderly through innovative human-animal interactions. While the two storytellers come from different professional backgrounds, both participated directly in the development and implementation of Animal Assisted Interventions (AAI) within local care facilities. Their experiences converge in highlighting the transformative potential of these initiatives—not only for the elderly residents but also for the caregivers, professionals, and communities around them.

In the first account, the narrator—a former social therapist—was drawn to the IN-HABIT project by its blend of urban regeneration and its focus on animals as a means to improve the quality of life for people, particularly the elderly. Having already seen the positive effects of informal animal interactions in a nursing home setting, such as when visiting family members brought pets or stray cats roamed the gardens, the therapist quickly envisioned the potential of a more structured, intentional approach. Through collaboration



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with the municipality and the care facility's management, a series of co-designed interventions were developed with the aim of sparking autobiographical memory, emotional expression, and social reconnection among residents.

The process was deeply participatory. Elderly residents were consulted on their interests and preferences, and small, needs-based groups were formed to ensure meaningful participation. While some residents initially hesitated, many grew eager and emotionally invested once the activities began. The animals facilitated not only reminiscence and emotional responsiveness but also encouraged social interaction, light competition, and playfulness. As the interventions progressed, the spaces in which they took place took on a new emotional identity—no longer just rooms in a facility, but places imbued with energy, anticipation, and connection. Even after the animals were no longer present, their impact lingered in the changed dynamics and atmosphere of those spaces. Flexibility and continuous adaptation proved essential to the success of the activities, allowing the associations and staff to adjust in real time to the evolving emotional and practical needs of the residents.

The second storyteller was introduced to the IN-HABIT project during a public city presentation. Initially intrigued but unsure of how such a multi-layered initiative could take shape across various European cities, their understanding solidified when they saw its connection to urban redevelopment and the inclusion of AAI. This marked their first direct experience with co-design, having previously worked only on top-down projects. The shift toward collaborative planning with associations, social workers, and the elderly themselves was transformative. While more complex, the co-design process also generated a sense of shared ownership, accountability, and long-term clarity. This collective approach was described as rare, particularly in how it fostered genuine cohesion among all stakeholders.

The narrator emphasized how the elderly—sometimes directly and at other times through the careful interpretation of caregivers—helped define the direction of the activities. This



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was especially significant in working with individuals experiencing advanced cognitive decline, including those in the Alzheimer’s unit. Initially, some staff were skeptical about the impact animals could have on such severely affected individuals. However, those doubts faded quickly. Residents who were often passive and unresponsive showed noticeable changes: emotional excitement, anticipation for the animals’ visits, and even recognition of individual dogs. These responses were not just fleeting moments of joy but indicators of reawakened interest in the outside world, improved memory, orientation, and interpersonal engagement. Spaces within the facility became animated with a new sense of purpose, turning into gathering points and places of emotional investment.

What binds both stories together is the clear demonstration of how human-animal interactions can become a powerful medium for emotional and social transformation, particularly within elderly care contexts. The animals did far more than offer brief comfort or distraction; they served as living bridges—connecting people to their memories, to one another, and to the world outside the facility walls. The interventions succeeded in breaking routine, reinvigorating the atmosphere of the care homes, and shifting the emotional tone from passive maintenance to active participation and connection.

Equally important was the role of co-design in shaping these outcomes. Rather than imposing a pre-packaged program, both stories emphasize how activities were built from the ground up, incorporating the voices and needs of all involved—from professional caregivers to elderly participants and local associations. This participatory framework ensured that the interventions were not only better suited to their context but also more resilient and sustainable over time. The sense of shared authorship made the project meaningful beyond the activities themselves.

Another recurring theme is the transformation of space and routine. Both narrators observed how the physical settings of the interventions were altered by the presence of animals—not just temporarily, but in ways that left lasting emotional imprints. Ordinary



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rooms became vibrant social arenas, and the anticipation of an animal's arrival created a ripple effect of positive emotion and interaction that extended well beyond the scheduled sessions.

Finally, the stories reveal that these interventions hold potential even for those with the most advanced cognitive challenges. While Alzheimer's and related conditions often isolate individuals and dampen responsiveness, the presence of animals seemed to bypass some of these barriers. Even residents typically rendered passive by illness or medication responded with curiosity, joy, and recognition. Their capacity to feel, to remember, and to connect was reawakened—if only temporarily—demonstrating the profound emotional access animals can unlock.

In sum, the stories present a compelling argument for the value of animal-assisted practices as part of a broader, inclusive vision for aging, care, and urban life. IN-HABIT's integration of AAI within a co-designed, community-based framework has not only improved the lives of elderly participants but also reshaped the roles of caregivers, the meaning of public and private spaces, and the potential of cross-species companionship in rehumanizing institutional care.

## Synthesis of results

In Lucca, quantitative evidence points to moderate but coherent improvements in perceived environmental quality, use of public spaces, and opportunities for physical activity in intervention areas (e.g., cycling, with 90.28% in the intervention group compared to 82.61% in the control group). While differences with control areas are generally smaller than those observed in Riga, the direction of change is consistently positive, suggesting incremental but meaningful effects of the VIS.



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Qualitative findings help explain these patterns by highlighting the role of design quality, scale, and integration with existing urban and cultural practices. Rather than producing transformative change, VIS in Lucca appear to have reinforced already favourable conditions, supporting healthier routines and everyday use of public spaces. From a policy standpoint, the Lucca case suggests that in medium-sized cities with relatively high baseline services, VIS can function as optimisation tools within existing planning frameworks. Policies aligned with the New European Bauhaus and the EU Urban Agenda should therefore emphasise design excellence, cultural integration, and continuity with local planning traditions, rather than large-scale structural intervention.

## 5 Nitra

### 5.1 Nitra's solutions and target groups

The main goal of the Nitra pilot is to promote healthier lifestyles and foster greater social inclusion for migrants and ethnic minorities, while also strengthening social cohesion and relational well-being among both residents of the Dražovce neighbourhood and individuals who frequently use the intervention areas located along the 8-kilometre cycling route linking Dražovce with the historic city centre. To achieve this, the project developed a Reversible, Multifunctional, and Open-source Urban Landscape along the cycle path.

The pilot's specific aims include:

- Encouraging healthier habits among the local population—particularly among vulnerable groups such as low-income individuals and those at risk of discrimination or social exclusion—by reducing sedentary behaviour and social isolation, and by promoting intergenerational and intercultural interactions.
- Enhancing the quality of public urban spaces, making them safer, more accessible, inclusive, and liveable in terms of air quality, temperature regulation, green coverage, and the availability of leisure and sports infrastructure.



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- Strengthening the skills, networks, and organisational capacities of local changemakers, especially NGOs engaged in socio-cultural activities.

The visionary and integrated solutions (VIS) planned for Nitra include:

- The implementation of a reversible and co-designed Multifunctional Open-source Urban Landscape (REMOULD) along the full length of the 8 km cycling route, equipped with multifunctional recreational areas, public services (e.g., bike stands and sanitary facilities), as well as spaces for sports, play, and leisure.
- The creation of community infrastructure in Hidepark—such as a community kitchen, experimental and shared gardens, and a DIY café—offering public workshops, bike-sharing services, and facilities for bicycle maintenance.
- The organisation of training programmes for urban gardening and therapeutic horticulture.
- The deployment of digital services via the INHABIT-APP to support outdoor sports, community participation, cultural events, and training or employment-related initiatives.
- Culinary events and vocational and educational activities, actively involving children, elderly individuals, and other vulnerable populations.
- Cultural and artistic events that employ intercultural dialogue as a tool for social integration.

The proposed baseline study on Inclusive Healthy Wellbeing (IHW) in Nitra will evaluate the initial conditions related to socio-economic well-being, mental health, and healthy behaviours within the identified intervention group (IG), as defined by the local research partner SUA. The quantitative data collected through the municipal survey will also enable a comparison between the intervention group and a control group, providing a means to account for external influences in the final evaluation



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## 5.2 The ex-post study in Nitra – key features

The survey was conducted online through computer-assisted interviews. Hard to reach, or digitally less equipped stakeholders were interviewed face-to-face, while community activators registered their answers online. The intervention group included 128 respondents, while the control group comprised 153. The majority of respondents were female (64,41%), followed by male (34,88%), with only two individuals preferring not to disclose their gender. A total of 29 respondents reported having a disability.

In terms of religious affiliation, 32,74% identified as non-religious, 119 respondents as Christian, and 28 as atheist, with other affiliations being negligible. The LGBTIQ+ community was markedly underrepresented, with only 22 respondents identifying as such, while 86,6% identified as heterosexual.

The average age of participants was 38,33 years ( $\pm 13,48$ ), ranging from 18 to 79 years. A large majority (79,36%) were national citizens, 46,62% held a master's degree, 56,58% were in full-time employment, and 35,59% were married.

## 5.3 The context of Nitra

The city of Nitra is the fifth largest city of Slovakia. It is the administrative capital of the Region and the District with the same name which is in the southwestern part of the country bordering the Republic of Hungary to the south. The city has a population of 75.208 inhabitants<sup>7</sup> (2025).

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<sup>7</sup> Statistical Office of the Slovak Republic ([www.statistics.sk](http://www.statistics.sk)).



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The region belongs to the warmest and the most productive agricultural centres of Slovakia and is rich in deposits and minerals. Most of the region's population lives in rural area with the urban population not exceeding the 45%. In 2023 (last data available on the Statistical Office of the Slovak Republic)<sup>8</sup>, the regional GDP per capita is 11% lower than the National average, industry was the largest contributor to the regional gross added value making up to the 40,6%, key industries include automotive, electronics, mechanical engineering, food processing, chemicals and rubber.

The IN-HABIT project targets neighbourhoods along the eight-kilometre cycle track linking the Industrial Park and the Dražovce district to the city centre. The area includes the residential district of Dražovce, with a sizeable Roma community; the Nitra North industrial park, home to many migrant workers; and recreational and cultural spaces along the cycle route and the Nitra River, such as City Park and Hidepark, used by residents from across the city. Dražovce has historically been disconnected from the city, having been a separate municipality until 1975. Municipal efforts now aim to address local challenges through alternative transport, particularly cycling.

Nitra faces increasing pressure on infrastructure, central congestion, pollution, noise, and urban degradation. Housing and integration of migrant workers are key issues; the creation of lodging houses in the industrial park has instead led to poor living standards, isolation, and the emergence of socio-pathological behaviours.

The baseline study was conducted in 2020, prior to the implementation of the VIS. **In relation to perceptions of equal treatment**, participants reported a sense of inequality linked to both ethnicity and age. This perception is consistent with the fact that 15% of respondents identified themselves as belonging to a discriminated group.

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<sup>8</sup> Statistical Office of the Slovak Republic ([www.statistics.sk](http://www.statistics.sk)).



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**Regarding healthy lifestyles**, the intervention group reported exercising less frequently than the control group (44% engaging in physical activity once a week or more, compared to 55%). In contrast, fruit and vegetable consumption showed no difference between groups, with 24% in each reporting an intake of at least three portions per day. Finally, no significant difference emerged in the perceived ease of accessing healthy food, with 66% of respondents in both groups considering it easy to obtain.

In the baseline study, no significant differences emerged between the two groups **regarding time dedicated to family, leisure, and pet care**. In both groups, around 70% reported spending one hour or more on family care, and approximately 42% devoted one hour or more to playing with or caring for their pets. Overall, 52% of respondents expressed satisfaction with how they spend their free time, with satisfaction levels higher in the intervention group compared to the control group (57% versus 48%).

**Finally**, 53% of respondents reported being satisfied with their personal financial situation, with similar proportions observed in both groups. Around one fifth of participants stated that their financial resources were insufficient or barely sufficient to cover their basic needs, with comparable levels of financial distress reported across the two groups.

## 5.4 The ex-post study in Nitra – Results

### 5.4.1 Social well-being in Nitra

The baseline study highlighted a high level of satisfaction with their relationship with people living in their neighbourhood (72% of the sample were satisfied or more than satisfied). Moreover, the population in the intervention group (residents in Dražovce Dražovce and those from other city districts frequenting the intervention area) showed a higher level of satisfaction when compared to the control group (75% vs 69%). However, the baseline study revealed a perception of social conflicts based on ethnicity and



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discrimination against immigrants. Finally, the trust in the capacity of local authorities to maintain peace and security is significantly less in the intervention group (39%) than in the control group (60%).

Figure 5.A compares respondents' feelings of safety across various situations, distinguishing between the intervention and control areas. Overall, the perception of safety is generally moderate to high in both contexts, with some notable differences depending on the specific scenario.

When it comes to leaving a vehicle unattended, 67.2% of respondents in the intervention area feel safe (scores 3–5) compared to 52.3% in the control areas. This indicates a marked improvement in perceived security in the intervention area, where insecurity levels are also substantially lower (32.8% versus 47.7%).

In the case of walking alone after dark, the results are almost identical between the two groups: 54.7% of respondents in the intervention area and 55.6% in the control areas feel safe, while around 45% do not. This suggests that night-time security remains a common concern regardless of location.

Perceptions improve considerably for walking alone in public green areas, with 86.7% in the intervention area and 81.1% in the control areas reporting feeling safe. The gap between the two groups is modest but clearly in favour of the intervention area.

The highest levels of perceived safety are observed when walking alone during the day, with over 90% of respondents in both groups feeling safe (90.6% in the intervention area and 91.5% in control areas). Feelings of insecurity during daytime are very limited, at around 9% in both contexts.

A specific item also examines perceptions related to road safety when walking or cycling. Here, only about half of respondents feel safe: 52.3% in the intervention area and 48.4% in



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the control areas. The relatively high share of respondents reporting insecurity (over 47% in both groups) suggests that concerns about traffic safety are widespread.

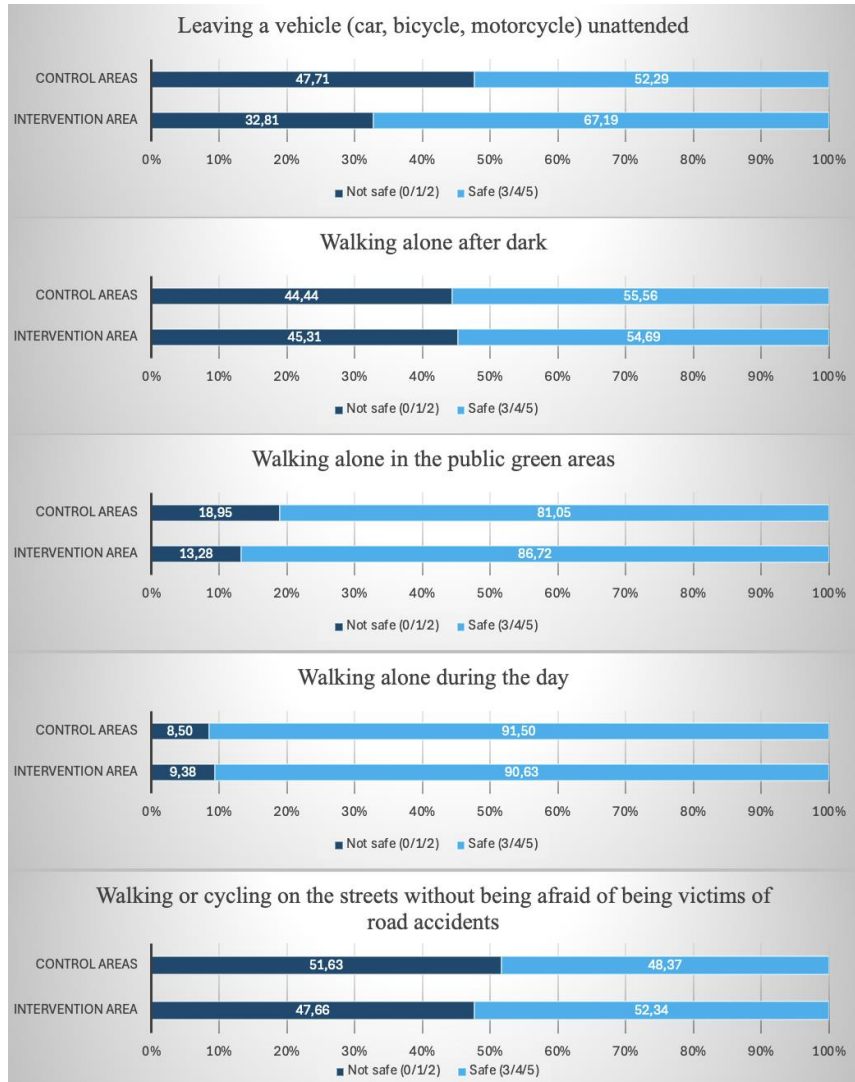


Figure 5.A Perception of security in Nitra (survey data: self-selection + snowball sampling). Sample size = 281, intervention group size = 128, control group size = 153



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In summary, the perception of safety is generally strong, particularly in public green areas and during daytime, with intervention areas often showing slightly better results. However, significant concerns remain in relation to leaving vehicles unattended, walking alone after dark, and road safety for pedestrians and cyclists, indicating areas where targeted measures could further enhance public safety.

We tested whether the difference in positive answers (“easy”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, the answers to “Walking alone after dark”, “Walking alone in the public green areas”, “Walking alone during the day” and “Walking or cycling on the streets without being afraid of being victims of road accidents” were not statistically significant (p-values = 0.88076, 0.20054, 0.79486 and 0.50926, respectively), while the answer to “Leaving a vehicle unattended” was statistically significant (p-value = 0.0114).

Figure 5.B compares the frequency of participation in community life and social activities between respondents in intervention and control areas. The data reveal varying degrees of engagement across activities, with the intervention area generally showing higher involvement in most domains.

Participation in democratic life at the city level (e.g. neighbourhood committees, municipal or school councils) is relatively low overall, with only 16.4% of respondents in the intervention area and 19.6% in control areas engaging once a month or more. This suggests that formal civic participation is infrequent in both contexts.

Neighbourhood cultural, social, or voluntary activities (such as dinners, festivals, or religious events) show higher engagement in the intervention area, where 28.1% participate at least monthly, compared to 18.3% in control areas. This indicates a more vibrant cultural and social participation in the intervention area.



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Volunteering to take care of public spaces and green areas is more common in the intervention area (25%) than in control areas (16.3%), though the majority in both groups still engage less than once a month.

Community problem-solving when issues arise shows a clear difference: 30.5% of respondents in the intervention area participate at least monthly, compared to only 20.9% in control areas, suggesting stronger problem-solving engagement where interventions have been implemented.

Informal discussions with neighbours about community problems are also more frequent in the intervention area (39.1%) compared to control areas (33.9%), pointing to more active neighbour-to-neighbour communication.

Finally, socialising in public spaces with friends or relatives is the most frequent activity in both groups, and particularly common in the intervention area (73.4% at least monthly versus 62.8% in control areas). This reflects a higher tendency toward informal social gatherings in intervention areas.

In summary, while formal civic participation remains limited in both contexts, intervention areas show greater engagement in cultural, social, and problem-solving activities, as well as more frequent informal interactions and social gatherings in public spaces.

We tested whether the difference in positive answers (“once a month or more”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 5.B were statistically significant (p-values, from top to bottom, = 0.4902, 0.5, 0.7186, 0.6724, 0.37886, and 0.5614).



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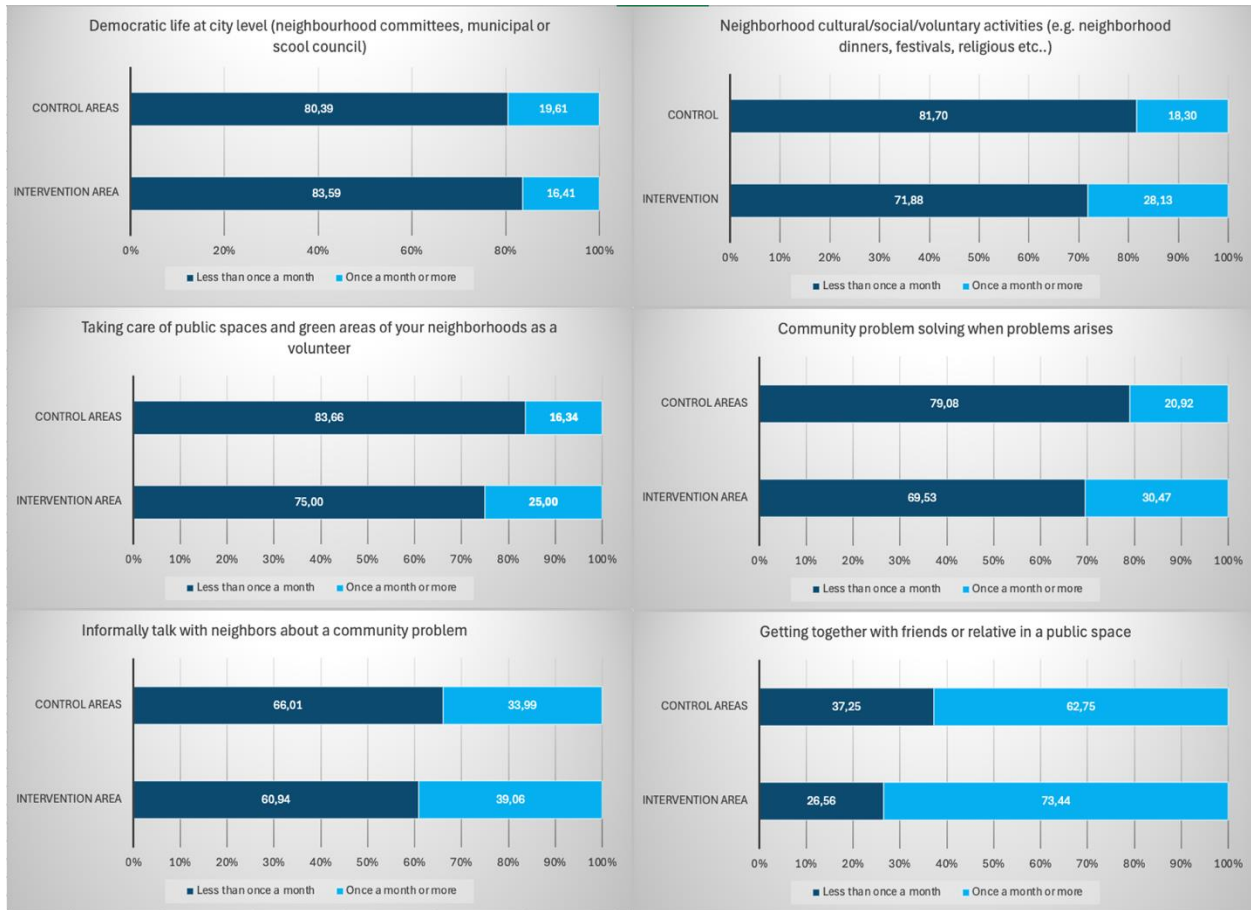


Figure 5.B Socio-cultural engagement and relations in public spaces: how often do people engage in the following activities in Nitra (survey data: self-selection + snowball sampling). Sample size = 281, intervention group size = 128, control group size = 153

Figure 5.C compares respondents' perceptions of ease in accessing various activities, services, and amenities between intervention and control areas. Overall, most items receive high ratings in both contexts, although notable differences emerge in some categories.



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Participation in cultural events is reported as easy (scores 3–5) by 75.8% of respondents in the intervention area and 77.1% in control areas, indicating similar accessibility with slightly higher levels in the latter.

Finding safe, accessible, and pleasant green areas is easier in control areas (83.0%) than in the intervention area (75.8%), suggesting a small advantage for control areas in this regard. However, when looking for a green space to do sports, the results are almost identical: 78.6% in the intervention area and 75.2% in control areas.

Access to children’s playgrounds is perceived as easier in control areas (88.3%) compared to the intervention area (75.0%), marking one of the largest gaps in favour of control areas.

A clear divergence appears when seeking help from others: only 53.1% of respondents in the intervention area consider it easy, compared to 64.7% in control areas. This trend is even more pronounced for finding adequate social and health assistance, where the intervention area scores considerably lower (44.5% versus 60.1%).

Regarding finding healthy food, ease is reported by 75.8% in the intervention area and 79.1% in the control areas, indicating relatively high but slightly better results in the control areas.

Regarding mobility, moving by bike is rated as easy by 82.8% of respondents in the intervention area and 79.7% in control areas, while moving on foot receives the highest scores overall, with 89.1% in the intervention area and 90.9% in control areas.

In summary, while both areas report generally high levels of ease in accessing most amenities and activities, control areas tend to perform better in accessing green areas, children’s playgrounds, and especially in receiving help or social/health assistance. The intervention area shows a relative advantage in cycling mobility but otherwise lags slightly behind in several key community support and service dimensions.



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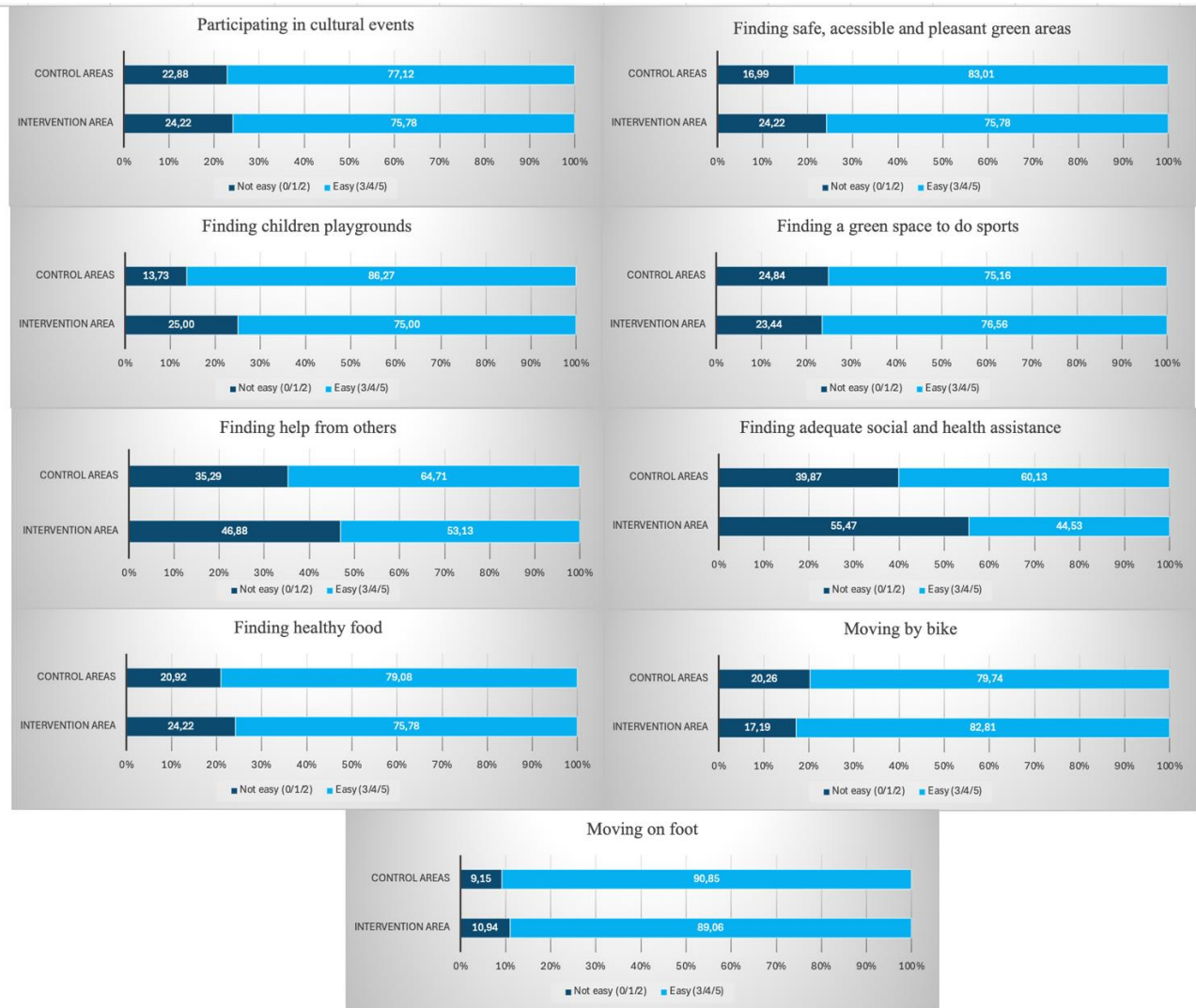


Figure 5.C Accessibility of local resources in Nitra: how easy is to find the following resources in the neighbourhood (survey data: self-selection + snowball sampling). Sample size = 281, intervention group size = 128, control group size = 153

We tested whether the difference in positive answers (“Easy”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions.



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At the 95% confidence level, the positive answers to the questions “Participating in cultural events”, “Finding safe, accessible and pleasant green areas”, “Finding a green space to do sports”, “Finding healthy food”, “Moving by bike”, and “Moving on foot” were not statistically significant (p-values, from top to bottom, = 0.79486, 0.13362, 0.78716, 0.50926, 0.50926, and 0.61708). In contrast, the differences for the questions “Finding a children’s playground”, “Finding help from others”, and “Finding adequate social and health assistance” were statistically significant (p-values = 0.0164, 0.04884, and 0.009, respectively).

Figure 5.D compares perceptions about the accessibility, maintenance, and inclusiveness of public green areas between intervention and control areas. Overall, responses indicate generally positive evaluations in both contexts, with the intervention area often showing slightly higher agreement rates.

The share of respondents stating that they do not frequent any public green area is higher in the intervention area (24.2%) compared to control areas (12.4%). This suggests a larger portion of the intervention area population remains disengaged from such spaces.

Regarding maintenance, both groups report high satisfaction, with 77.3% in the intervention area and 74.5% in control areas agreeing that green areas are well maintained.

Accessibility for persons with disabilities is acknowledged by 59.4% of respondents in the intervention area and 56.9% in control areas, showing a modest advantage for the intervention area.

When asked whether green areas are pleasant and beautiful places to spend free time, agreement rates are high in both groups: 75.0% in the intervention area and 79.2% in control areas.



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In terms of diversity of use, 82.8% of respondents in the intervention area and 77.1% in control areas agree that green areas are frequented by people of all ages, while 74.2% and 65.4%, respectively, believe they are frequented by people of all ethnicities — marking one of the most pronounced differences in favour of the intervention area.

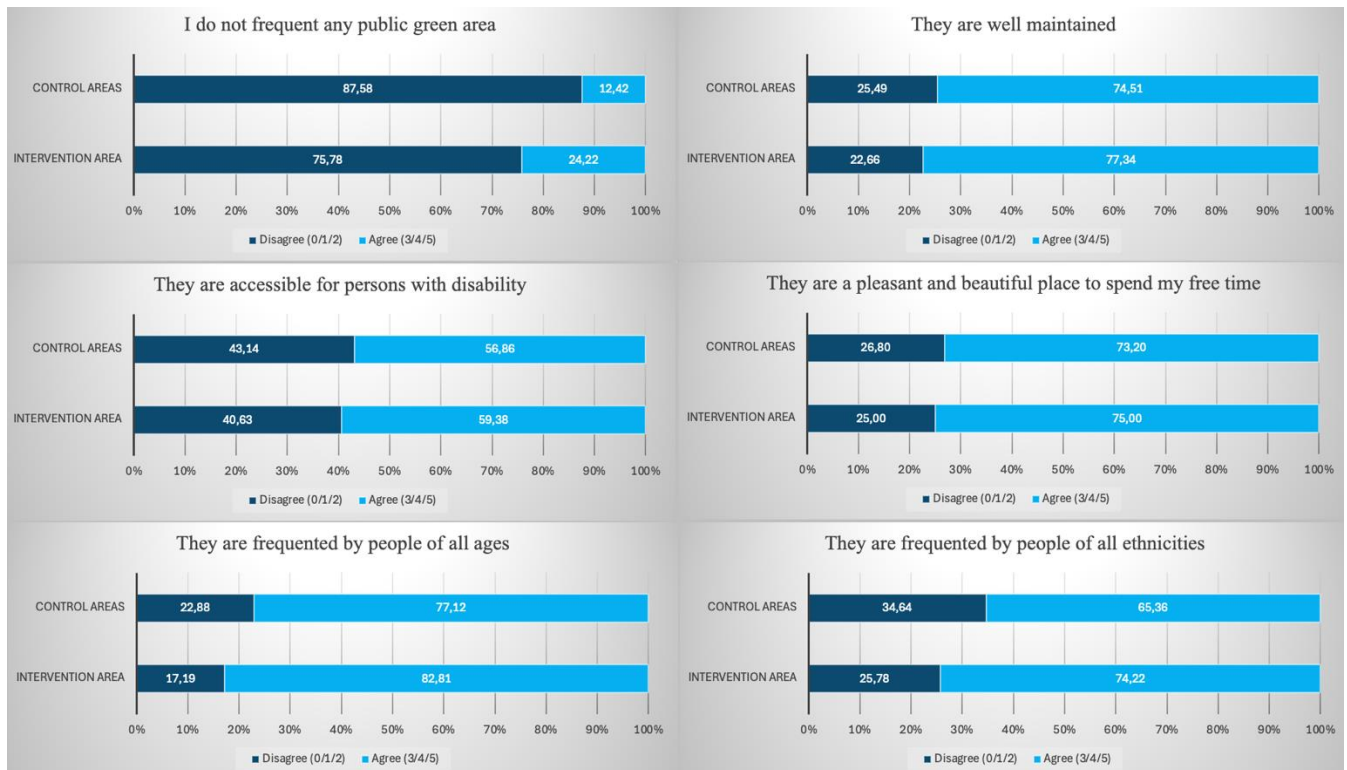


Figure 5.D Satisfaction with urban green areas in Nitra (survey data: self-selection + snowball sampling). Sample size = 281, intervention group size = 128, control group size = 153

In summary, public green areas are generally perceived positively in both contexts, with the intervention area showing slightly stronger evaluations for inclusiveness and maintenance. However, a higher proportion of residents in the intervention area report not using green spaces at all, which may point to barriers unrelated to their quality or accessibility.



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We tested whether the difference in positive answers (“agree”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, none of the differences in Figure 5.D were statistically significant, except for the statement “I do not frequent any public green area” (p-value = 0.0098). The other p-values (from top to bottom) were 0.58232, 0.6672, 0.72786, 0.238, and 0.1096.

Figure 5.E compares perceptions of social cohesion, trust in local authorities, and neighbourhood image between intervention and control areas. The results show notable differences, often favouring control areas.

When asked whether no one is left alone in their neighbourhood, 53.9% of respondents in the intervention area agreed, compared to only 39.2% in control areas. This suggests stronger perceived social support networks in intervention areas. Trust in the capacity of local authorities to maintain security is slightly higher in control areas, where 55.6% agree, compared to 50.0% in intervention areas. This indicates a moderate but noticeable gap in institutional trust.

Regarding perceptions of neighbourhood improvement over the past two years, 56.2% of respondents in control areas agree, while agreement drops to 45.3% in intervention areas. This difference suggests that recent changes are viewed more positively in control areas.

In summary, intervention areas score better on perceived social support, while control areas perform better on trust in local authorities and perceived neighbourhood improvement. These patterns highlight different strengths in each context, with intervention areas excelling in social connectedness but lagging in institutional trust and perceived progress.



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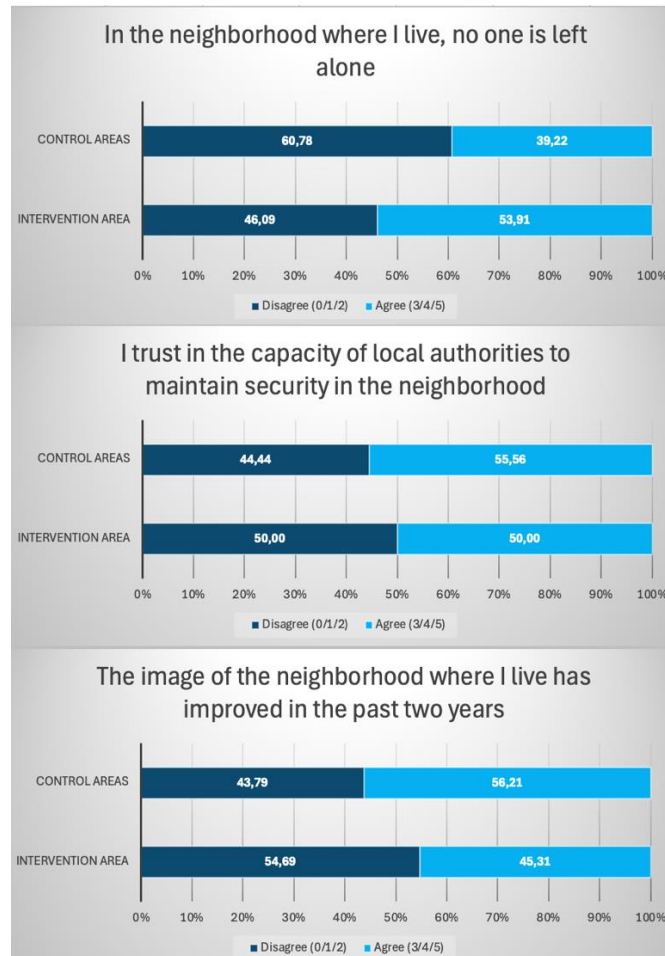


Figure 5.E Perception of the neighbourhood in Nitra (survey data: self-selection + snowball sampling). Sample size = 281, intervention group size = 128, control group size = 153

We tested whether the difference in positive answers (“agree”) between the intervention and control groups was statistically significant using a Z-test for two-sample proportions. At the 95% confidence level, the answers to “I trust the capacity of local authority to maintain security in the neighbourhood” and “The image of the neighbourhood where I live



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has improved in the past two years” were not statistically significant ( $p$ -values = 0.35 and 0.6876, respectively), while the answer to “In the neighbourhood where I live, no one is left alone” was statistically significant ( $p$ -value = 0.0139).

## 5.4.2 Healthy lifestyles in Nitra

Healthy lifestyles in Nitra have been measured through different dimensions.

The data illustrating how much time respondents typically spend during a working day engaging in activities such as playing, relaxing, or doing sports in public green areas show that in the intervention group, 6.25% of respondents spend 2 to 3 hours per day in green areas, compared to 7.19% in the control group. Those spending more than 3 hours account for 3.91% in the intervention group and 4.58% in the control group. The share of respondents who never use green areas is slightly higher in the intervention group (19.53%) than in the control group (18.95%). While minimal use (less than one hour) is comparable across groups, the figures indicate only minor differences between intervention and control areas in the amount of time dedicated to outdoor activities in green spaces.

The comparison between the control group and the intervention group shows that both groups generally perceive access to green sports spaces as good. In the intervention group, 24.22% of respondents rated access as very easy (score 5) and 33.59% gave it a score of 4, meaning 57.81% view access positively. In the control group, 26.14% rated access as very easy and 29.41% gave it a score of 4, for a total of 55.55% giving a score of 4 or 5. Lower scores (0–2) are relatively infrequent in both groups, suggesting that access to green areas for sports is perceived as fairly easy by the majority.

The data show how easy respondents find moving around on foot in their neighbourhood, based on a 0–5 scale where 0 means not at all easy and 5 means very easy. Perceptions are very positive overall in both groups, with particularly high scores in the top two categories. In the intervention group, 42.97% of respondents rated walking as very easy



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(score 5) and 32.03% gave it a score of 4, compared to 49.02% and 30.72% in the control group. Combined, 75.00% in the intervention group and 79.74% in the control group rate walking as easy (scores 4 or 5), indicating minimal barriers to pedestrian mobility in either context. Similar figures emerge for how easy it is to move by bike. In the intervention group, 34.38% rated cycling as very easy and 29.69% as score 4, for a total of 64.06%, compared to 28.10% and 33.33% in the control group (61.44%).

The data also show how respondents perceive the ease of finding healthy food in their neighbourhood. In the intervention group, 22.66% rated it very easy (score 5) and 26.56% gave a score of 4, for a total of 49.22% giving a score of 4 or 5. In the control group, 20.92% rated it very easy and 37.91% gave it a score of 4, bringing the total to 58.82%. Both groups report generally good access to healthy food, but perceptions are slightly more positive in the control area.

### 5.4.3 Economic well-being in Nitra

Regarding the economic status of respondents in Nitra, the data highlight several differences between the control group (0) and the intervention group (1), particularly in employment patterns, financial perceptions, and satisfaction indicators.

Full-time employment is more prevalent in the intervention group, where 59.38% identify as full-time employees, compared to 54.25% in the control group. Self-employment or freelance work is also more common in the intervention group (14.84%) than in the control group (11.76%), suggesting slightly greater entrepreneurial activity in the intervention area. The intervention group also has a higher share of retirees (8.59% vs 2.61%), indicating a potentially broader age distribution.

In contrast, the control group has a significantly higher share of respondents in education, apprenticeship, or internship (16.99% vs 8.59%), suggesting a younger or more transitional profile in that sample. Parental leave is also more frequent in the control group (7.19% vs



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2.34%). Unemployment rates are low in both groups, with 1.56% in the intervention group and 2.61% in the control group.

When asked to compare their own (or their family's) financial situation with that of others in their neighbourhood, the majority in both groups considered it to be in line with the neighbourhood average, with slightly higher agreement in the intervention group (65.63%) compared to the control group (60.13%). A higher proportion of respondents in the control group perceived themselves as financially above average (15.03%) compared to 7.81% in the intervention group, while those who considered themselves below average were slightly more common in the control group (18.95%) than in the intervention group (15.63%). These figures suggest a more concentrated perception of economic parity in the intervention group, whereas the control group presents a more polarised distribution, with higher shares at both the upper and lower ends.

Life satisfaction levels are relatively high in both groups, though slightly more respondents in the control group reported being “more than satisfied” or “very satisfied” (34.0% combined) compared to 28.1% in the intervention group. However, the intervention group showed a higher share of respondents reporting being simply “satisfied” (35.94% vs 32.68%), which may reflect a broader, more moderate perception of life quality.

Satisfaction with time and resources to manage personal matters is remarkably similar across the two groups, with “satisfied” responses almost identical (40.63% in the intervention group and 40.52% in the control group) and very close levels of “more than satisfied” (16.41% vs 15.69%).

Perceptions of personal relationships within the neighbourhood are also positive in both contexts, though slightly more respondents in the control group reported being “very satisfied” (8.50% vs 3.91%). In the intervention group, the most common responses were “satisfied” (33.59%) and “partly satisfied” (31.25%), while in the control group the distribution leaned more towards “satisfied” (38.56%) and “more than satisfied” (26.80%).



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In summary, the intervention group in Nitra exhibits a slightly more uniform perception of financial status, higher shares of full-time and self-employed workers, and similar levels of satisfaction with time, resources, and personal relationships compared to the control group. The control group shows greater variation in financial perception and a higher share of students and younger respondents, possibly reflecting a more heterogeneous socio-economic profile.

#### 5.4.4 GDEI analysis in Nitra

This section overviews key differences in socio-economic well-being and healthy lifestyles across target groups at risk of discrimination/exclusion in Nitra. For each group we compare the share of “positive” responses (scores  $\geq 3$  on 0–5 items). Sample sizes (n) are given to signal robustness.

##### Women

In the updated GDEI analysis for Nitra, women report feeling less safe than men when walking alone after dark, with 47% considering it safe compared to 70% of men. In contrast, daytime safety perceptions are similar (91% for women vs 90% for men), as is safety in public green areas (83% vs 84%). Walking in the neighbourhood is considered easy by 91% of women compared to 88% of men, while cycling is rated as easy by 80% of women and 84% of men. Access to green sports areas is slightly more positive among women (77%) compared to men (73%).

##### Young people

Young respondents (18–34) show slightly higher perceptions of daytime safety than adults



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aged 35–65 (93% vs 89%) and a more positive view of safety in public green areas (85% vs 82%). Walking in the neighbourhood is reported as easy by 90% in both groups, while cycling is more positively rated by young people (86% vs 77%). However, access to green sports areas is slightly lower for younger respondents (73% vs 78%).

### LGBTQI+ people

Respondents identifying as LGBTQI+ report similar perceptions of daytime safety (92% vs 91%) and safety in green areas (82% vs 84%) compared to heterosexual respondents, but lower ease of walking (84% vs 91%). Cycling is also rated slightly lower (80% vs 82%), and access to green sports areas is perceived as easier by 71% compared to 77% among heterosexual respondents.

### Students

Students report the highest daytime safety perception (95% vs 91% for employed respondents) but slightly lower ease of walking (87% vs 91%). Access to green sports areas is notably lower (60% vs 78%). Cycling is reported at similar levels, while no comparable data is available for safety in public green areas.

### People with disabilities

People with disabilities report slightly higher perceptions of daytime safety (95% vs 90%) and safety in public green areas (93% vs 82%). Walking ease is almost the same (90%), but cycling is perceived as easier (90% vs 80%). However, access to green sports areas is lower among this group (71% vs 77%).

### Ethnic minorities



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Members of ethnic minorities report higher daytime safety (96% vs 90%) and higher safety in public green areas (90% vs 82%) compared to other respondents. Walking ease is also greater (94% vs 89%), as is cycling ease (86% vs 80%). Access to green sports areas is slightly lower (72% vs 76%).

### People living alone

Respondents living alone report slightly higher perceptions of daytime safety (94% vs 90%), though no comparable data is available for safety in public green areas. Walking ease is similar (89% vs 90%), cycling is perceived as slightly less easy (79% vs 82%), while access to green sports areas is higher (80% vs 75%).

## 5.5 Qualitative evaluation

The IN-HABIT project in Nitra has catalyzed deep social, spatial, and emotional change across communities, bridging divides through participation, creativity, and care. These five interviews – from a school principal, a community gardener, a cultural activist, a refugee centre worker, and a disabled Ukrainian refugee – reflect diverse but converging experiences of inclusion, empowerment, and community-led transformation.

### **Story 1: Empowering Children and Schools: A Principal's Perspective**

Branislav Budiš, headteacher of the segregated elementary school in Drážovce, speaks passionately about the impact of IN-HABIT on his Roma-majority school. The Friday creative clubs, workshops, and hands-on activities opened doors for marginalized children, introducing them to parts of the city like Hidepark they had never seen. Central to the



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initiative was a co-design process, where pupils imagined and prototyped improvements for their school grounds — giving them ownership and agency in shaping their learning environment. Budiš sees IN-HABIT not just as an educational enrichment but as a vehicle for social inclusion and urban discovery.

### **Story 2: Community Gardening as Collective Healing**

An engaged local woman active in Hidepark's community garden describes how the space evolved into a living organism of cooperation. Initially met with skepticism, the project succeeded by letting individuals care for their own garden plots, eventually fostering a strong sense of ownership, skill-sharing, and mutual aid. Rather than enforcing collective labor, the garden thrived by allowing diverse contributions at individual levels, proving that autonomy and inclusion can coexist. The garden became a hub for sustainable practices (e.g. vertical farming, composting) and social learning, subtly altering perceptions of community, especially among previously disconnected or marginalized residents, including Roma children and families.

### **Story 3: Bridging Divides in Drážovce: Hope and Frustration**

An elderly cultural activist from Drážovce shares both her initial enthusiasm and later disappointments. She hoped the multiclub and community events would bring Roma and non-Roma families together, but many non-Roma parents chose not to participate. Despite her efforts, deep-rooted social divides persisted. However, she adapted by focusing on "small bubbles of openness" — organizing neighborhood goulash events to build trust among newcomers and long-time residents. Her story reveals that while systemic transformation is difficult, intimate, low-pressure experiences can foster lasting connections. She also criticizes the overuse of technical language in planning and stresses the importance of clear communication and visible results in community engagement.



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#### Story 4: Inclusive Public Spaces and New Civic Culture

A woman working with migrants and refugees celebrates IN-HABIT's participatory approach and humanization of public spaces. Unlike top-down planning, the project involved a wide range of citizens — seniors, mothers, youth, migrants — in shaping their environments. Public spaces that were once ignored now host workshops, play, and everyday life. She observes the project's influence on city institutions, noting a shift toward valuing citizens' input and inclusive design. For her, IN-HABIT bridged academic goals with grassroots realities, producing a more vibrant and inclusive urban culture that reflects the needs of real users, not abstract ideals.

#### Story 5: Rebuilding a Life through Care and Belonging

Eduard Medvid, a Ukrainian refugee and amputee, offers a deeply personal story of trauma, loss, and recovery. After a life-altering workplace accident, he found support through IN-HABIT and Hidepark. Initially involved in physical volunteer work, he regained purpose, dignity, and community. Staff helped him navigate bureaucratic and emotional hurdles, eventually encouraging him to lead a football club for Ukrainian children. Through these connections, Eduard found not just healing but a new family and sense of identity. His story powerfully illustrates how inclusive urban projects can become lifelines for those in crisis, creating spaces for personal transformation and reintegration.

Across all five stories, a number of key themes emerged that illustrate the transformative power of inclusive and participatory urban initiatives. One of the clearest lessons is that **\*\*co-creation truly matters\*\***. Whether it was children sketching and building their dream schoolyards or residents planning their garden plots, involving people from the beginning gave them a sense of ownership, pride, and deeper connection to the spaces they helped create. This naturally led to a second insight: **\*\*participation is deeply personal\*\***. People are more likely to engage when their involvement feels meaningful and tailored to their



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own pace and abilities. Even small, individual contributions — like tending a garden bed or volunteering at an event — proved powerful in building community resilience and shared purpose.

Another theme that surfaced is the **complexity of inclusion**. While some initiatives, like the multiclub in Drážovce, struggled to attract a mix of Roma and non-Roma participants, others, such as the open community garden or neighborhood festivals, found more success through organic, low-pressure engagement. These examples reveal that fostering inclusion often requires patience, trust-building, and space for people to engage on their own terms.

Communication also played a crucial role throughout the project. Many participants noted that **clear, accessible language and visible, tangible outcomes** were essential in building trust within the community. People wanted to understand not just the purpose of a project, but how it would concretely affect their lives and neighborhoods. Promises alone were not enough — real results, no matter how small, made all the difference in gaining public confidence.

Finally, the project consistently demonstrated that **small actions can lead to big change**. Simple, local activities — like planting, creating, cooking, or gathering — had lasting impacts on how people viewed themselves and each other. Rather than relying on sweeping top-down reforms, IN-HABIT thrived by focusing on **incremental, meaningful interactions** that slowly reshaped attitudes, relationships, and public spaces. In doing so, it helped awaken a participatory spirit across the city, empowering individuals to see themselves not just as residents, but as co-creators of their urban environment.

IN-HABIT's greatest achievement may not be in dramatic urban changes, but in awakening a participatory spirit, fostering trust, and helping individuals — like Eduard, the Roma children, and community elders — find their place and power within the city's evolving story.



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## Summary of results

In Nitra, quantitative results indicate selective improvements in public space use, perceived accessibility, and social interaction, alongside more limited effects in economic domains. On the one hand, perceptions of safety are generally high in both groups, with 90.6% of respondents in the intervention area and 91.5% in control areas feeling safe when walking alone during the day, and 86.7% vs. 81.1% feeling safe when walking alone in public green areas. Moreover, some items suggest advantages for the intervention area, such as feeling safe when leaving a vehicle unattended (67.2% vs. 52.3%).

On the other hand, accessibility outcomes are mixed and often favour control areas: participation in cultural events is reported as easy by 75.8% in the intervention area and 77.1% in control areas; finding safe/pleasant green areas is easier in control areas (83.0% vs. 75.8%); and access to children's playgrounds shows a marked gap (75.0% vs. 88.3%). Particularly relevant for "social" outcomes, respondents in the intervention area report lower ease in finding help from others (53.1% vs. 64.7%) and in accessing adequate social and health assistance (44.5% vs. 60.1%), while mobility indicators are broadly high in both groups (moving by bike: 82.8% vs. 79.7%; moving on foot: 89.1% vs. 90.9%). This uneven pattern suggests that VIS impacts were concentrated in specific spatial and mobility-related dimensions, without consistently translating into broader improvements in perceived service support and welfare-related access.

Focus group insights indicate that these results are shaped by contextual and governance-related factors. Participants noted improved attractiveness and usability of specific intervention sites, but also pointed to limited institutional capacity and lower levels of civic engagement as constraints on wider impact. These qualitative insights are consistent with inclusiveness challenges captured in the survey's GDEI analysis. For example, women report feeling safe when walking alone after dark in only 47% of cases compared to 70% among men, suggesting that perceived safety and inclusion remain key levers for policy



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action beyond physical upgrades alone. Policy implications for Nitra therefore emphasise strengthening local governance and civic infrastructure alongside physical interventions, prioritising coordination between urban planning and social policy to close gaps in access to support services and improve inclusive safety outcomes, in line with the EU Urban Agenda's emphasis on integrated and participatory urban development.

## 6 Conclusions

The IN-HABIT project has provided a unique opportunity to test **visionary and inclusive solutions for health and well-being** in small and medium-sized cities (SMSCs). By working in Córdoba, Riga, Lucca, and Nitra, the project has demonstrated that urban innovation is not limited to large metropolitan areas. Rather, smaller cities, when empowered with co-created tools, inclusive planning, and participatory processes, can act as **front-runners in building healthier, fairer, and more inclusive communities**.

This deliverable (D7.5) has presented the results of the **ex-post evaluation**, the final stage of the IN-HABIT impact assessment framework. By combining **quantitative surveys** with **qualitative evidence** from focus groups and storytelling, it provides a multidimensional view of the project's effects on **social, spatial, economic, and health-related dimensions of well-being**, with particular attention to gender, diversity, equity, and inclusion (GDEI).

### 6.1 Key Findings Across Cities

- **Accessibility and Mobility:**

Riga and Lucca stand out for clear improvements in accessibility to cultural events, public green areas, and mobility (both walking and cycling).



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Córdoba shows persistent gaps in access to healthy food, green areas, and mobility options, highlighting the structural challenges of disadvantaged neighbourhoods.

Nitra demonstrates strong improvements in cycling infrastructure, though difficulties remain in accessing social and health services.

- **Social Well-being and Safety:**

Perceptions of safety improved modestly in all cities, with the most visible gains in Riga (walking at night) and Nitra (safety of vehicles and green areas).

Social cohesion increased most where participatory methods were central, particularly in Córdoba (Las Palmeras), where residents reported stronger bonds and reduced stigma through co-designed interventions.

- **Economic Well-being:**

Intervention groups generally report more stable or positive financial conditions, with Riga showing a clear reduction in unemployment.

Córdoba remains the most economically fragile case, with nearly 40% of residents in the intervention area perceiving their economic situation as below average.

In Lucca and Nitra, intervention groups reported more diversified employment patterns, suggesting a more resilient local economy.

- **Green and Public Spaces:**

Lucca and Riga achieved higher satisfaction with the quality, inclusiveness, and attractiveness of public green areas.

Córdoba residents continue to report dissatisfaction, perceiving green spaces as less inclusive and of lower quality despite implemented solutions.

In Nitra, mixed results highlight the need to combine infrastructure with improved trust in local authorities to ensure long-term benefits.

- **Inclusiveness (GDEI):**



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Women, elderly people, ethnic minorities, and LGBTIQ+ individuals often report **lower levels of safety and accessibility** across cities. Nevertheless, targeted interventions and participatory processes contributed to greater recognition and visibility of vulnerable groups, especially in Córdoba (women-led initiatives) and Riga (inclusive food and cultural practices).

In Table 1 we summarize the main results of the project and stress the differences and improvements with respect to the baseline study (Deliverable 7.3).

## 6.2 Broader Lessons

Several **cross-cutting lessons** emerge from the ex-post assessment. First of all, **process matters as much as outcomes**. The most enduring impacts are linked to co-design, dialogue, and participation. Where communities were empowered to shape interventions (e.g., Las Palmeras in Córdoba, Hum-an spaces in Lucca), results extended beyond physical improvements to include trust, empowerment, and ownership.

Second, **small changes can generate large symbolic impacts**. Even modest infrastructural interventions, such as revitalising a patio or re-opening a local market, produced significant improvements in residents' perceptions of belonging, pride, and visibility.

Third, **structural inequalities cannot be solved by isolated interventions**. Persistent gaps in Córdoba and challenges in Nitra underline that inclusive health and well-being require **systemic support** — in employment, education, social policy, and governance.

Finally, **small and medium-sized cities are laboratories for integrated well-being**. Their scale allows close interaction between institutions and residents, making them fertile ground for testing **innovative, cross-sectoral, and human-centred approaches**.



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Table 1 - Comparison between baseline and ex-post studies

		Córdoba	Riga	Lucca	Nitra
Social Well-being	Baseline	High stigma, discrimination, weak safety (esp. at night). Strong local cohesion and solidarity.	Concerns about safety (women felt unsafe at night). Some discrimination concerns. Moderate cohesion.	Women felt unsafe at night, modest civic participation. Human-animal ties valued.	Low trust in institutions, weak cohesion, minorities excluded.
	Ex-Post	Slightly improved safety perceptions but still below average. Pride in patios, stronger cohesion.	Improved safety at night (63% vs. 54% control). Stronger cohesion, more cultural participation.	High safety overall, modest rise in cultural/civic engagement. Appreciation of animal-inclusive spaces.	Improved safety in green/public spaces, stronger volunteering and problem-solving.
Healthy Lifestyles	Baseline	Poor diets, obesity, low sports activity. Access to healthy food limited.	Most satisfied with physical health (59–61%). Moderate physical activity.	Sports practice modest. Human-animal interaction linked to well-being.	Poor access to green leisure; low physical activity.
	Ex-Post	Better access to cultural events, still weak in healthy food and quality green areas.	Intervention residents healthier (52% vs. 38% control) & more active. Access to healthy food stable.	Increased cultural participation and volunteering in green spaces.	Cycling mobility improved; healthier outdoor practices noted.
Economic Well-Being	Baseline	High unemployment (28% city, higher in Las Palmeras). Many unsatisfied financially.	Average/above average for most, but housing affordability concerns.	COVID harmed tourism jobs, some sectors stable. Mixed job stability.	Fragile, job insecurity, reliance on welfare. Disparities across groups.
	Ex-Post	39.7% perceive below average (vs. 16% control). Still major economic hardship.	Unemployment lower (3.9% vs. 7.8% control). Better financial self-perceptions.	More full-time/self-employment in intervention areas. Slight stability improvement.	Mixed: engagement strong but access to services and job stability still fragile.
Spatial/Environmental	Baseline	Poor access to quality green areas, playgrounds, and healthy food.	Green/public spaces moderately accessible; housing affordability stressed.	Women: harder cycling mobility, safety issues at night. Spaces valued.	Peripheral areas poorly integrated, low-quality infrastructure.
	Ex-Post	Accessibility gaps persist (green spaces, healthy food). Cultural events easier to reach.	Green spaces better maintained and more inclusive in intervention area.	82% in intervention find green spaces pleasant (vs. 73% control).	Safer green spaces, better cycling mobility, but access to services limited.
Inclusiveness	Baseline	Strong stigma (Roma, Las Palmeras residents). Self-stigmatization.	Generally welcoming, but women/elderly reported safety issues. Some ethnic discrimination.	Gender gaps (safety, civic life). Elderly vs. youth differences. Pets/animals central to inclusion.	Roma & minorities excluded, weak trust in institutions.



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	Women/LGBTIQ vulnerable.			
Ex-Post	Social cohesion strengthened, more visibility, but economic exclusion persists.	Women/elderly/LGBTIQ still report lower safety, but participation & visibility improved.	Symbolic gains from animal-inclusive vision. Persistent gender differences.	Enhanced intercultural encounters, but trust in authorities remains low.

### 6.3 Policy Implications

The findings of IN-HABIT hold relevance for **European and local policymakers**. Several suggestions and indications can be drawn from the results of the project:

- **Mainstream inclusiveness into urban policies:** Health and well-being strategies should systematically incorporate gender, diversity, equity, and inclusion lenses.
- **Invest in co-creation:** Participation is not a cost but an asset. Involving residents builds legitimacy, trust, and sustainability of interventions.
- **Support smaller cities:** With limited resources compared to larger metropolitan areas, SMSCs need targeted EU and national support to scale up inclusive well-being practices.
- **Balance hard and soft interventions:** Infrastructure (green areas, mobility, digital tools) is effective when combined with cultural, educational, and social initiatives.
- **Monitor and evaluate continuously:** The IN-HABIT framework illustrates the value of combining quantitative and qualitative methods for nuanced insights.

The quantitative evidence generated by IN-HABIT provides actionable insights for key European policy frameworks, in particular the European Green Deal and the EU Urban Agenda. In several intervention sites, measurable improvements are observed in domains that directly correspond to Green Deal objectives related to sustainable urban environments, nature-based solutions, and inclusive access to green infrastructure.



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For example, in Riga, access to green areas is reported by 70.97% of residents in intervention neighbourhoods compared to 58.82% in control areas, while perceived maintenance of green spaces reaches 74.19% versus 62.09%. Accessibility for persons with disabilities is also higher in intervention areas (70.97% vs. 59.48%), supporting the Green Deal's emphasis on a "just transition" that leaves no one behind.

From the perspective of the EU Urban Agenda, which promotes integrated, place-based approaches to social inclusion, economic opportunity, and quality of life in cities, IN-HABIT results point to significant neighbourhood-level effects. In Riga, ease of participation in cultural activities is reported by 62.58% of intervention residents compared to 40.52% in control areas, alongside lower unemployment rates (3.87% vs. 7.84%), suggesting that improvements in public space quality and accessibility can translate into broader social and economic participation. At the same time, evidence from Córdoba (Las Palmeras) highlights the structural constraints faced by deprived urban areas: access to healthy food remains markedly lower in the intervention area (52.69%) than in the control area (78.47%), and access to green areas is also reduced (47.31% vs. 67.46%). These persistent gaps indicate that, while neighbourhood-level interventions are aligned with Urban Agenda principles, their effectiveness depends on complementary policies addressing food systems, welfare provision, and service accessibility at city and regional levels.

Overall, the magnitude of the observed differences supports the view that interventions aligned with the European Green Deal and the EU Urban Agenda can contribute to healthier lifestyles, environmental quality, and social inclusion. However, the results also underscore the need for multi-level governance frameworks that connect local experimentation to systemic policy instruments, ensuring that Green Deal objectives and Urban Agenda priorities are translated into durable and equitable urban outcomes.



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## 6.4 Concluding Remarks

The IN-HABIT project provides robust empirical evidence that inclusive, place-based and co-created interventions can meaningfully contribute to improving Inclusive Health and Wellbeing (IHW) in small and medium-sized cities (SMSCs). At the same time, the ex-post evaluation highlights that the magnitude, direction, and sustainability of impacts are strongly conditioned by local baseline conditions, governance capacity, and the degree of integration between urban, social, and health policies. These concluding remarks synthesize the main lessons emerging from the comparative analysis and translate them into actionable insights for policymakers and practitioners operating at different governance levels.

A key contribution of IN-HABIT lies in demonstrating how **different starting points in terms of Health & Wellbeing shape intervention outcomes**. The four cities represent distinct baseline profiles:

- **Córdoba** entered the project with severe structural deprivation, territorial stigma, and weak access to essential services. Here, baseline deficits in economic well-being, food access, and environmental quality limited the measurable quantitative impacts of the VIS, despite strong qualitative evidence of social empowerment and community cohesion.
- **Riga** started from comparatively favourable socio-economic and infrastructural conditions, combined with an already active civic and cultural ecosystem. This baseline enabled VIS to generate clear and statistically significant improvements across multiple IHW dimensions, including physical activity, access to healthy food, employment, and perceived safety.
- **Lucca** exhibited relatively high baseline levels of environmental quality and service provision. In this context, VIS primarily acted as optimisation mechanisms,



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reinforcing existing strengths and enhancing everyday use of public spaces rather than producing disruptive change.

- **Nitra** presented an intermediate baseline, characterised by spatial disconnection, social fragmentation, and emerging migration-related challenges. VIS here produced visible gains in social cohesion and civic engagement, while more structural determinants (such as access to social and health services) proved harder to influence.

This comparison suggests that **VIS are most effective when aligned with baseline conditions**: transformative in well-served contexts (Riga), incremental in moderately endowed cities (Lucca), and symbolic but socially meaningful in structurally deprived areas (Córdoba). Policymakers should therefore avoid one-size-fits-all approaches and instead calibrate expectations, instruments, and timelines to local starting points.

From an urban policy perspective, IN-HABIT confirms that **health and well-being are emergent properties of urban systems**, rather than the outcome of isolated sectoral interventions. Spatial design, mobility, food environments, cultural infrastructure, and social participation interact in shaping IHW outcomes.

At the **local level**, municipalities are encouraged to:

- Embed health and well-being objectives into spatial planning instruments, zoning regulations, and regeneration strategies.
- Prioritise co-design and long-term community engagement, particularly in vulnerable neighbourhoods, as a prerequisite for trust, ownership, and sustained use of public spaces.
- Combine “hard” infrastructural investments with “soft” actions (cultural programming, capacity building, community activation), as their interaction proved central to positive outcomes across all pilots.



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At the **national level**, results highlight the need for:

- Stronger coordination between urban planning, public health, social policy, and labour market interventions.
- Dedicated funding streams supporting integrated, place-based approaches in SMSCs, which often lack the administrative capacity and visibility of large metropolitan areas.
- Monitoring frameworks that move beyond traditional health indicators and capture social, environmental, and subjective dimensions of well-being.

At the **EU level**, IN-HABIT provides concrete support for the principles of the EU Urban Agenda, the European Green Deal, the EU Pillar of Social Rights, and the Health in All Policies approach. The findings suggest that EU programmes should:

- Encourage multi-dimensional impact assessment frameworks that reflect the complexity of IHW.
- Promote learning across cities with different baseline conditions, enabling transfer not of “solutions” but of processes and governance models.
- Recognise SMSCs as strategic laboratories for inclusive innovation, given their proximity to citizens and capacity for experimentation.

The project underscores that **public health gains are closely tied to social inclusion and environmental quality**. Improvements in physical activity, mental well-being, and healthy lifestyles were strongest where residents perceived spaces as safe, inclusive, and socially meaningful.

Importantly, the GDEI analysis shows that **inequalities persist even within intervention areas**. Women, elderly people, persons with disabilities, ethnic minorities, and LGBTIQ+ individuals often report lower safety, accessibility, and trust. While IN-HABIT interventions



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mitigated some of these gaps (particularly through participatory processes), structural inequalities remain largely beyond the reach of neighbourhood-scale interventions alone.

This implies that VIS should be viewed as **complementary tools**, not substitutes, for broader redistributive and welfare policies. Inclusive urban design can reduce exposure to health risks and enhance everyday well-being, but durable equity gains require alignment with housing, employment, education, and social protection systems.

A final lesson concerns scalability and transferability. IN-HABIT demonstrates that **what scales is not the specific intervention, but the logic of intervention**: co-creation, cross-sectoral integration, and sensitivity to local context. Attempts to replicate VIS without adapting them to baseline conditions and governance structures risk generating superficial or short-lived impacts.

Sustainability also depends on institutional embedding. Where VIS were integrated into existing municipal strategies (as in Riga and, to a lesser extent, Lucca), impacts are more likely to persist beyond the project lifecycle. Conversely, in contexts characterised by institutional fragility or fragmented governance, sustaining outcomes requires continued external support and policy alignment.

In conclusion, IN-HABIT shows that inclusive health and well-being in cities is neither a purely technical challenge nor a purely social one, but a **governance challenge**. Small and medium-sized cities can act as powerful arenas for experimentation, if interventions are grounded in local realities and supported by coherent multi-level policies.

The project's evidence calls for a reframing of urban health policies: from isolated sectoral actions to integrated, participatory, and place-based strategies that recognise well-being as a collective resource. By making visible both achievements and limitations, IN-HABIT



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contributes to a more realistic and nuanced understanding of what inclusive urban transformation can deliver, and under which conditions it can do so effectively.

As European cities continue to confront intertwined challenges of inequality, climate change, demographic ageing, and social fragmentation, the lessons from Córdoba, Riga, Lucca, and Nitra provide valuable guidance. They remind policymakers that inclusive health and well-being are not outcomes to be “delivered”, but processes to be continuously co-produced, across scales, sectors, and communities.



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## 8 Appendix - Methodology

The overall research evaluation methodology has been thoroughly described by ISIM partner in the deliverable D7.3, in the section 7 titled "Appendix on research methods and tools" and slightly modified by UNITO & CCA in the deliverable D7.1. The methodology specifically envisaged for the ex-post evaluation has been described by ISIM and, likewise, slightly modified by UNITO & CCA in the deliverable D7.1.

In this section, we will describe the small changes applied to the methodology for ex-post evaluation, changes that only concern the ex-post survey. In addition, we will detail the methodology implemented for the analysis of the quantitative data collected through the questionnaire.

### The survey

The overall quantitative evaluation involved three steps: (i) refining the questionnaire used for the ex-ante evaluation and baseline study described in D7.3, in order to adapt it, where necessary, to the ex-post evaluation exercise, (ii) distribution of the questionnaires and collection of the data through city partners and local activators; (iii) analysis of the responses and preparation of the results to be included in the deliverable 7.5.

As far as Step (i) is concerned, each city's questionnaire employed for the survey has been adjusted with respect to the ex-ante version on the basis of the inputs received by the city partners. This work was aimed at adapting the research to the broader contextual changes as well as to changes in the project itself.

In **Córdoba**, the ex-post questionnaire retained the general structure of the baseline survey but several differences can be identified. The questions regarding respondents profiling (name, date of birth, e-mail address, citizenship status, residency status, country of birth,



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marital status) were removed in the ex-post survey. Most of the socio-demographic questions remained consistent, including age, gender, education, and employment. Core health and well-being measures, such as self-assessment of physical health, questions on subjective well-being (e.g. 'I have felt cheerful and in good spirit'), perceptions of safety (walking alone after dark, leaving a vehicle unattended), and satisfaction with life were also kept. However, specific questions that were present in the ex-ante were not repeated in the ex-post. For example, some items focusing on detailed household composition and expectations about neighborhood improvements were omitted. Conversely, new questions were introduced in the ex-post, including questions on perceived discrimination and barriers to cultural and leisure participation. Such items did not exist in the baseline survey. Finally, the question regarding Covid-19 was deleted. Overall, while continuity was maintained for comparability, Córdoba's ex-post survey introduces specific new items on discrimination, accessibility, and green areas quality while removing some baseline questions on household detail and expectations.

The **Lucca** ex-post survey closely mirrors the baseline structure, keeping intact core modules on demographics, well-being, physical and mental health, perceptions of safety, and use of public spaces. Questions such as 'Walking alone after dark', 'Leaving a vehicle unattended', and 'Finding healthy food' were retained, ensuring comparability. Some questions were removed in the transition from baseline to ex-post. For instance, several detailed household structure questions (such as the number of household members in specific age brackets) were simplified. At the same time, new items were added. In particular, Lucca's ex-post questionnaire included questions on difficulties in accessing cultural and leisure opportunities (e.g. 'I don't have enough money', 'I don't have time available'), which were not asked in the baseline survey. Overall, the Lucca ex-post questionnaire maintained the backbone of the ex-ante but expanded it by adding items on barriers to participation while simplifying household questions.

In the case of **Nitra**, the ex-post survey maintained strong comparability with the baseline version. Socio-demographic questions such as age, gender, education, marital status, and



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employment were present in both. Health and subjective well-being questions, such as 'How often did you feel nervous in the past 30 days?', and self-reported satisfaction with life, were also retained. However, some questions from the baseline survey did not appear in the ex-post. As in other cities, questions with detailed household composition (for example, the exact number of household members by age group) were streamlined. In summary, the Nitra ex-post survey preserved comparability with the baseline while adding specific modules on discrimination and cultural access barriers and removing some detailed household-level questions.

The **Riga** ex-post survey kept almost all of the core content from the baseline version, such as demographics (age, gender, marital status, education, employment, disability, religion), subjective well-being, self-reported health, food consumption, and use of green spaces. Key perception and satisfaction questions on safety, community, and the quality of public spaces (e.g. 'They are well maintained', 'They are frequented by people of all ages') were maintained. Nonetheless, some questions from the baseline were not repeated in the ex-post. These include certain detailed household structure items. Overall, the Riga ex-post questionnaire preserved all major domains of the baseline survey but added new modules on discrimination and cultural barriers, while simplifying some socio-demographic details.

### **The analysis of the data**

The analysis of the data collected across the four cities unfolded through several sequential phases, ensuring data quality, consistency, and reliability. The main steps were: sampling, data cleaning, construction of the analytical dataset, description of the study context, descriptive analysis, eventual comparative analysis with respect to the baseline study, and GDEI analysis.

The city survey made use of a combination of two non-probability sampling methods.



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- Self-selection sampling, that allowed people to choose to take part in the study on their own accord. To this aim the survey has been advertised through the project website and social networks, inviting all the people aged >18 and living in the 4 cities to participate.
- Snowball sampling, since research participants (particularly local observers and members of local organized groups and institutions) were asked to assist Local Community Activators (LCAs) in identifying other potential participants among the target groups. The snowballing distribution of the survey was chosen to reduce the risk of self-selection of the respondents which is associated to an uncontrolled dissemination of an online questionnaire.

Non-probability samples are not representative of the population, thus they do not allow for generalizations/inferences. However, the reasons for the choice of a non-probability sample are summarized below.

- Given the large number of variables under investigation (including personal and socio-demographic characteristics), it was not possible to estimate the population composition across multiple dimensions. This limitation is primarily due to the lack of city-level data on aspects such as ethnicity, religion, sexual orientation, country of birth, and other similar characteristics.
- Estimating the full composition of the population across all variables of interest would have been excessively costly and time-consuming, with limited added value for the study. The primary objective of this research is to assess the nature of the changes affecting the Inclusive Health and Well-being (IHW) of the target beneficiaries of the IN-HABIT solutions. Therefore, producing generalisable estimates of the entire population is not the main aim of this impact assessment. Moreover, even probability sampling could introduce biases in this context, as it might lead to an over-representation of individuals who are statistically representative but not directly exposed to the VIS interventions (or, conversely, under-represent those who are).



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The choice of the snowball sampling is justified for at least three reasons.

- This approach helps to mitigate potential biases arising from self-selection sampling, whereby responses might otherwise come predominantly from individuals already interested in the project or affiliated with partner organizations.
- It helps reaching the target beneficiaries of the VIS in each city.
- It is particularly important to engage groups that are hidden or hard to reach, such as those unfamiliar with digital technologies, those exposed to discrimination and stigma, or those typically excluded from participatory processes. In such cases, the personal bonds of trust established between local activators and participants are essential to ensure their involvement.

The second step focused on checking and processing the ex-post survey data, collected from residents in both intervention and control groups. Specifically, the following procedures were applied:

- **Language:** the questionnaires were administered in the original language of each city, and later the data collected were translated into English.
- **Treatment of missing values:** the responses contained only a few missing cases, which did not ultimately affect the analysis conducted for each question.
- **Labels containing the text of the questions** were coded when necessary to facilitate the empirical analysis.
- Finally, the resulting dataset for each city was processed using statistical software such as Stata or R.



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This stage produced a final dataset ready for systematic analysis. Before proceeding with the core analyses, we provided background information on the city and areas under investigation, including relevant national statistics where necessary.

The descriptive stage involved producing basic descriptive statistics (means, medians, frequencies) for the socio-demographic and economic variables in order to provide an overview of the sample for each city. Following the presentation format of the baseline study, and to ensure comparability, results were presented in the form of bar charts, highlighting differences between the control and intervention groups. To this end, contingency tables were first created, with rows representing group type and columns representing the response levels for each question. Where survey questions included multiple response levels (particularly ordered categories), these were aggregated into binary categories whenever possible. This approach helped to capture the key distinctions (e.g., agree vs disagree, easy vs not easy, frequent vs infrequent) and reduced the variability caused by dividing responses into too many small cells. These 2x2 tables were then converted into bar plots showing row frequencies (control vs intervention). Whenever feasible, results were also discussed in relation to the previous baseline study. It is important to note, however, that many questions included in the baseline study were not replicated in the ex-post survey, which limited the scope of the comparative analysis in some cities (such as Córdoba).

The analyses were presented by thematic area: social well-being, healthy lifestyles, and economic well-being. The final section was devoted to the GDEI analysis, covering the following categories where data were available: women, elderly and young people, LGBTIQ+ individuals, persons with disabilities, ethnic minorities, and religious minorities. These analyses were conducted comparatively with respect to a benchmark group (e.g., women vs men, elderly vs young, LGBTIQ+ vs heterosexual, etc.) and focused only on questions where notable differences emerged between groups. However, this analysis was strongly limited by the low sample representativeness of these populations, which in some cases were so small that no meaningful comparisons could be made.



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Inference was strongly limited by the sample design. However, we applied an inferential procedure to assess whether the differences between the control and intervention groups were statistically significant. In this respect, we focused our attention on the proportion of positive modalities of the answers (such as “safe”, “agree”, or “easy”) and compared the proportion of positive answers in the intervention group with that in the control group using a Z-test for two population proportions. In particular, the null hypothesis of this test is that the two proportions are equal, against the alternative that they differ. The test statistic is computed as follows:

$$Z = \frac{(\hat{p}_1 - \hat{p}_2) - 0}{\hat{p}(1 - \hat{p}) \left( \frac{1}{n_1} + \frac{1}{n_2} \right)} \sim N(0,1)$$

where  $\hat{p}_1$  is the sample proportion of the intervention group,  $\hat{p}_2$  is the sample proportion of the control group,  $n$  stands for the sample size, and  $\hat{p}$  is the proportion in the two samples combined.

While the study adhered to a defined and rigorous methodological framework, few limitations should be acknowledged. First, in some cases there was a notable imbalance between the control and intervention groups. Additionally, sample sizes were driven by participation rates rather than determined through formal statistical calculations. Second, as previously noted, the sample sizes for vulnerable groups in the GDEI analysis were too small to support robust comparative analysis. Finally, the study’s external validity may be limited, given that data collection was confined to specific urban areas and may not be representative of the broader city populations. Nonetheless, the evidence derived from the ex-post evaluation study provides extremely relevant and interesting key findings from the project well as as broader lessons and implications for policy makers, highlighted in Section 6.



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