

Designing Health into Urban Green & Blue Infrastructures – The Need for Action in Planning, Policies and Education.

National Report (Germany)

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Executive Summary

Based on literature review and expert interviews performed, the results show that the German population is not sufficiently active, but the ones who are appear to be active mostly on open public spaces and for recreational purposes. This review gives an overview of three different health-related behaviors (active recreation, active travel and social interaction) on the German population, specifically from the city of Darmstadt.

Regarding active recreation (i.e. Outdoor recreational activities, such as organized sports, playground activities that require extensive facilities or development), German citizens tend to have an active recreation in comparison with the rest of the EU. In addition around 42% of the German population engage in sport of PA in open public spaces (in parks, outdoors, etc.) (40% for the EU average), but most of them engage PA or sport at home (46% of the population). In the city of Darmstadt, the active recreation patterns remain as in the rest of the country. Noticeable with the increase of the age, more often are activities in open spaces performed. Regarding active travel (i.e. walking and bicycling as a mode of transport) in Germany, even though proportions of walking and cycling are slowly increasing during the years, and mostly in small settlements, the country is still “car domain”. Regarding social interactions (i.e. the dynamic sequence of social actions between individuals (or groups) who modify their actions and reactions due to actions by their interaction partner(s)), Germans seem to be satisfied with their personal relationships and to participate in recreational groups or organizations. Although there is no statistic about the social relationships on open public spaces, the statistics mentioned above show the level of happiness and satisfaction with the social relationships, which at the same time are essential for the mental health of the human.

The amount of open public spaces in Germany is similar to the average in the EU countries: Germany has 12.5m² of sport and recreation areas per inhabitant, and 4.6m² of public green areas per inhabitant. Comparing the Darmstadt patterns to other European cities, this report assesses a positive picture of open public spaces. Darmstadt is surrounded by a forest belt, which covers 49% of the municipal area. This makes Darmstadt one of the most wooded cities of in Germany. In addition, the citizens confirm that they use actively and often the open public spaces, also with the purpose to be with other people, which accounts for social interaction. This report draws on recent surveys, underlining that maintenance and cleanliness, trees in good condition, and lawn areas to lie and play are the most important features of parks for Darmstadt citizens.

Policies and practices are being implemented in Germany and in the city of Darmstadt to promote urban open public spaces and health related behaviors on the citizens (active travel, active recreation and social interaction). One example is the “Stadtumbau Ost” in Darmstadt, which is an urban renovation project that started in October 2016 and which its goals are: to improve the public spaces, to connect the blue and green infrastructure, to upgrade the residential environment and to modernize the area.

Conclusively, this report aims to give an overview of the situation of health related behaviours and the open public spaces in Germany and in the city of Darmstadt and shows that more research on the topic and more cooperation between institutions when planning is needed.

Acknowledgments

The present report was produced in the framework of the ERASMUS+ project “PREHealth: Promoting education and jobs to enhance the use of urban blue and green infrastructure for health and fitness”, and aims at presenting the findings of a literature review on the connection between health-related behaviour and the use of open spaces in European Countries with a focus on the four participant countries and cities: City of Darmstadt, Germany; City of Eindhoven, The Netherlands; City of Győr, Hungary; and City of Athens, Greece. The findings presented provide a conceptual framework for recognising the important role of urban green and blue infrastructure in promoting and increasing health-related behaviours, addressing policy and decision makers, educational authorities, local civil society organisations and key persons in the fields of urban design and planning, lifelong learning and public health, as well as the general public.

We express our gratitude to the various representatives of the different cities for their time and support to the study.

1. Introduction

Sedentary behaviors are rising among the European population and Germany is not the exception. Physical activity (PA) minimum levels are being barely reached by the German population. Only 39% of adults and 27.5% of children and adolescents reach the minimum standards of PA according to the WHO.

It has been shown that the built environment has great impacts on the citizens' health and behaviors in a certain way. Still, it is not clear exactly which are the health outcomes of the artificial spaces and the relationship built environment and health behaviors seems still very complex. The project PREHealth (Promoting education and jobs to enhance the use of urban blue and green infrastructure for health and fitness) with one of the main objectives as to raise awareness among the public regarding the contribution that open spaces can make to health and overall wellbeing, with emphasis on young people in the effort to change behaviors and attitudes.

This report aims to give a brief overview for Germany and Darmstadt as part of the PREHealth project. It is focused on three health-related behaviors such as active recreation (i.e. Outdoor recreational activities, such as organized sports, playground activities that require extensive facilities or development), active travel (i.e. walking and bicycling as a mode of transport) and social interaction (i.e. the social dialogue that a person has with family, friends, colleagues, acquaintances and others). It pays special attention to the different socio economic groups of the society. In addition, this report delivers information about the urban open public spaces (green and blue infrastructure, street networks, and squares), the actual status and the usage of these spaces. Moreover, this report gives information, not only from Germany in general, but also from the city of Darmstadt, which is one of the cities participating on the PREHealth project.

Further, this report will try to give an insight of actual policies and planning processes that are related to health-related behaviors and open public spaces. Moreover, best practices examples will be describe with the pedagogic objective: to learn from actual cases of study. To achieve these goals, the report adopts two different methods: a literature review and expert interviews.

2.Challenges

There are some challenges regarding health related behaviours on the German population that require attention and action. One of these challenges is the increase of sedentary behaviours on the population. For example, in Germany in 2012, not even the half of the adult population reached the minimum standards of PA (44% males, 35% females, 39% both sexes) and only 27.5% of children and adolescents met the recommended levels of physical activity for health (WHO², 2015). In addition, economic costs are a burden for a country. Physical inactivity can be estimated to cost a country about €150–300 per citizen per year (WHO³, 2017).

The lack of PA in the European Region is being represented on non-communicable diseases. “Of the six WHO regions, the European Region is the most affected by non-communicable diseases (NCDs), and their growth is startling. The impact of the major NCDs (diabetes, cardiovascular diseases, cancer, chronic respiratory diseases and mental disorders) is equally alarming: taken together, these five conditions account for an estimated 86% of the deaths and 77% of the disease burden in the Region” (WHO⁴, 2017).

In the case of Germany, according to the World Bank data, in 2015 the causes of death by non-communicable diseases were 91.5%.

Germany is also following the world trend: the increase of the urban population. According to the World Bank data, in 2014, Germany had more than 75% of urban population, and the trend is to keep increasing. This trend comes along with the pressure on the urban land, the increase of housing and the decrease of free spaces for green, blue and public areas. As cited in Nieuwenhuijsen (2016), in Europe, green space coverage increases more rapidly than city area, but that a decline in green space availability per capita accelerates with increasing population density. This suggests that access to green space could decline rapidly as cities grow, increasing the geographical isolation of people from opportunities to experience nature. This is a fact that threatens the accessibility of urban open public spaces, which play a great role in enhancing a healthy-behaviour in city dwellers.

3.Approach (methodology)

This report gives information about Germany in general but also from the city of Darmstadt. Darmstadt is a city in the state of Hessen, Germany, located in the southern part of the Frankfurt Metropolitan Region. Darmstadt has a population of 150,000 inhabitants (2013) and the larger urban zone has 431,000 inhabitants (See Figure 1).

To understand the status, the policies and practices regarding, health-related behaviours and the open public spaces, we used a combination of two methods: literature review, to gather facts, statistics and general knowledge about the topic, and expert interviews, to obtain insight information about what is going on actually on policy and planning processes.

To address the problem of health related behaviour and public open spaces with a focus on different socio-economic and cultural profiles, the research adopted a holistic scope: first we introduce the broad concept of health and its variables, and second we target specific assets of health (PA as a way of wellbeing or health-related behaviour), its determinants (the built

environment: urban public open spaces), and the person and its social relationships as the centre of the research (different socio economic groups).

Since the concept of health varies depending on author and époque, we approach the concept from a general perspective and not with a fixed limited definition. The definitions on this review, rather than been extensive, are explanatory for this project.



Figure 1: Map of Darmstadt, Germany and its boundaries.

As mention before, the direction of this study is the PA, but more specific is the ‘health related behaviour’, which accounts of active travel, active recreational use of spaces and social interaction. Moreover we focused on urban publically accessible open spaces within cities. This is because the area where the physical activity is performed plays an important role and may be a key to achieve successful practices.

In this frame, the urban public open spaces (green and blue infrastructure and street networks) in the city figure as platforms to increase the PA in city dwellers through their accessibility and their qualities. Therefore, these open public spaces and their characteristics are focus in our project.

A widely cited definition of “green infrastructure is “an interconnected network of greenspace that conserves natural ecosystem values and functions and provides associated benefits to human populations” (Coumts & Hahn, 2015). Blue infrastructure in urban areas comprises all surface waters within a city (e.g. lakes, rivers, coastal water) (Volker & Kistemann, 2015).

The street network is the representation of the urban system, which include axes, intersections and nodes, which at the same time conforms the basis of the transportation systems in a city.

The research questions to address by the project are as follow:

1. What is the relation between health-related behaviour (active travel, active recreational use, and social interaction) and urban public open spaces (green spaces, squares, street networks, blue infrastructure)?
2. How do socio eco (demographic?) and cultural profiles relate to health-related usage of public open spaces?
3. What are the health-related policies and best practices in the city of Darmstadt?

This review is focused in Germany with depth information about the city of Darmstadt.

4. Main findings

Germany has adopted WHO's Global Recommendations on Physical Activity for Health (2010) as its national recommendations. Nevertheless, in 2012, not even the half of the adult population reached these minimum standards of PA (44% males, 35% females, 39% both sexes) (WHO², 2015) (See figure 2). According to the first wave of the survey for children and young people in Germany from the Robert Koch Institute (Studie zur Gesundheit von Kinder und Jugendlichen in Deutschland –KiGGS-) made in 2012, only 27.5% of children and adolescents met the recommended levels of physical activity for health, with girls being less likely (25.4%) to meet the recommended levels than boys (29.4%) (WHO², 2017).

These facts of physical inactivity among German citizens are supported by a study made in the Potsdam University in 2017 regarding PA among students and workers, which concludes that among students and workers of the university, the recommendations for PA (3 times per week set in the study) was not met by 70% of the employees and 52.67% of students (Salzwedel et al., 2017).

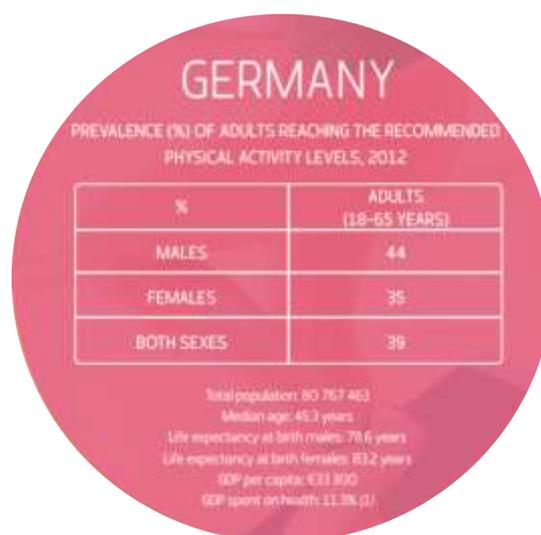


Figure 2: prevalence (%) of adults reaching the recommended PA levels in 2012. (WHO2, 2015)

4.1 Health related behaviors in Germany and Darmstadt

This report focuses on three health-related behaviors: active recreation, active travel and social interaction, always in connection with the urban open public spaces.

Active Recreation

According to the special survey on the topic “Sports and PA” from the European Commission, German citizens appear to exercise or play sports more in comparison with the rest of the EU countries. For example, in 2013, 41% of Germans stated that they exercise or play sports with some regularity (33% for the EU) and 29% of Germans stated that they never exercise or play sports (42% for the EU) (EU Commission, 2013).

In addition, 42% of the German population engage in sport of PA in open public spaces (in parks, outdoors, etc.), but most of them engage PA or sport at home (46%) (EU Commission, 2013)

In the city of Darmstadt, according to a survey made to the citizens in 2015, the activities most performed every day on the free time of the citizens are: watching TV or listening music, internet and communication in social media and talk on the telephone. 43% of the Darmstadt’s citizens perform every day activities in open spaces. 18,3% of the citizens do sports every day and 47% perform sports 1 or 2 times per week. In addition, it is interesting to note that older age groups tend to be more often active in outdoor spaces. (See Figure 3) (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016).

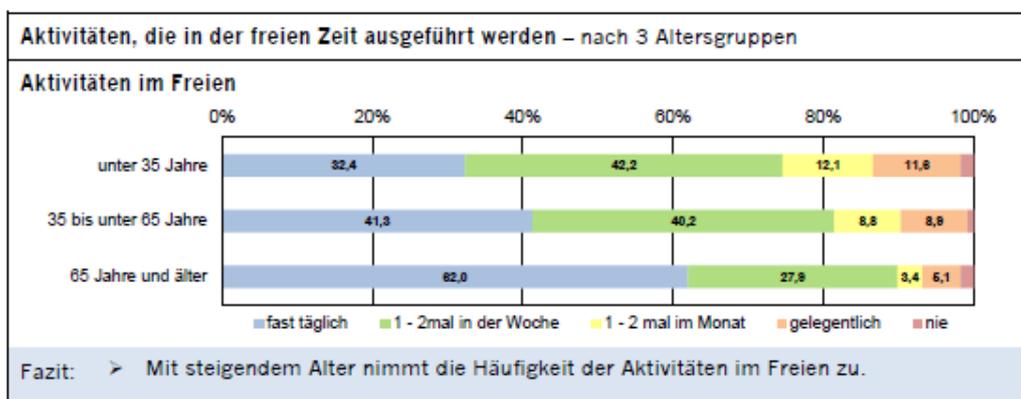
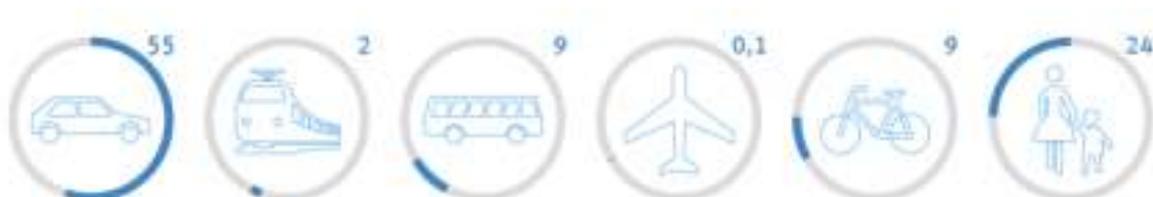


Figure 3: Outdoors Activities, city of Darmstadt, 2015. Source: Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016.

Active Travel



In 2010, 24% of the trips were by foot and 9% were by bicycle (Hütter, A., 2013).

For the year 2013, 12.9% of all journeys were made by bicycle and 22.3% on foot (WHO², 2017). In addition, a special survey made by the EU Commission shows that Germans seem to walk more (for at least 10 min at a time) than the rest of the EU. 70% of the respondents stated that on the last week they walked for at least 10 minutes at a time on 4 to 7 days of the week (EU Commission, 2013). Still, the most common way of moving is by car. Around 55% of the trips were made by car in 2013 (Hütter, A., 2013).

The use of the bicycle in Germany according to a survey made in 2015 among adolescents and adults (14-69 years) is on the first place to do excursions or shopping, second to meet friends on the evening, third to do sports, fourth as transport to the job, and fifth to go to school (Statista¹ 2015).

In the case of Darmstadt, active travel seems more prominent. Walking and bicycling in the city of Darmstadt is very popular. Almost 70% of the citizens confirm that they walk or bicycle to do their daily shopping and more than 45% go by foot or bicycle to sports centres (See figure 4) (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016).

In the case of public transport in Darmstadt, which is somehow connected to active travel, it is shown that the age group less than 25 years of age including school-aged students, is the group that has the larger percentage of daily use of public transport every day (over 60%). Moreover, every two non-German uses public transport several times a week and about 38% almost daily. Nevertheless, with the increase of age the proportion of those who use public transport every day diminish (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016). After all, active travel in Germany should increase especially on elderly people and people with German nationality.

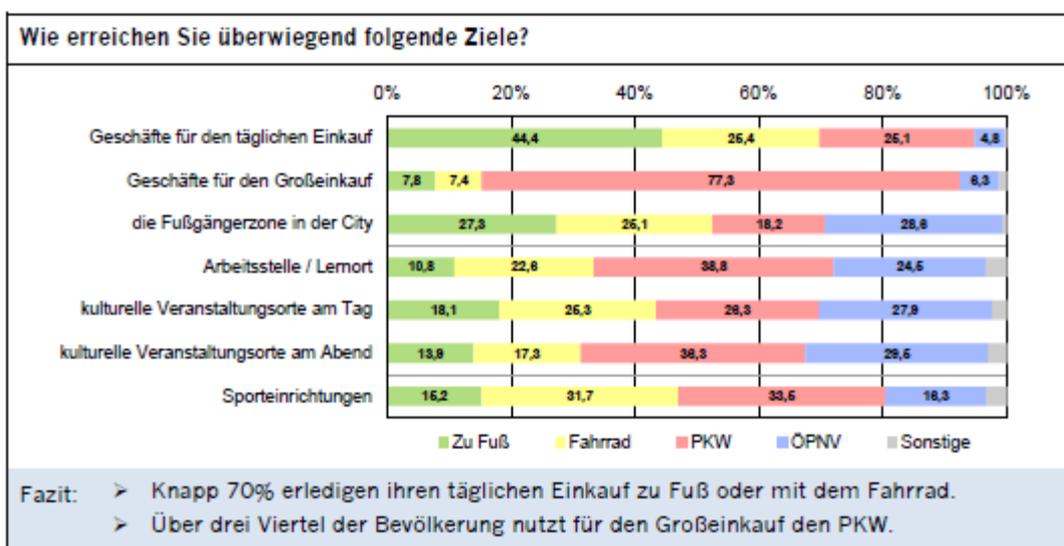


Figure 4: Division of transport mode according to activities, Darmstadt, 2015. Source: Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016.

Social Interaction

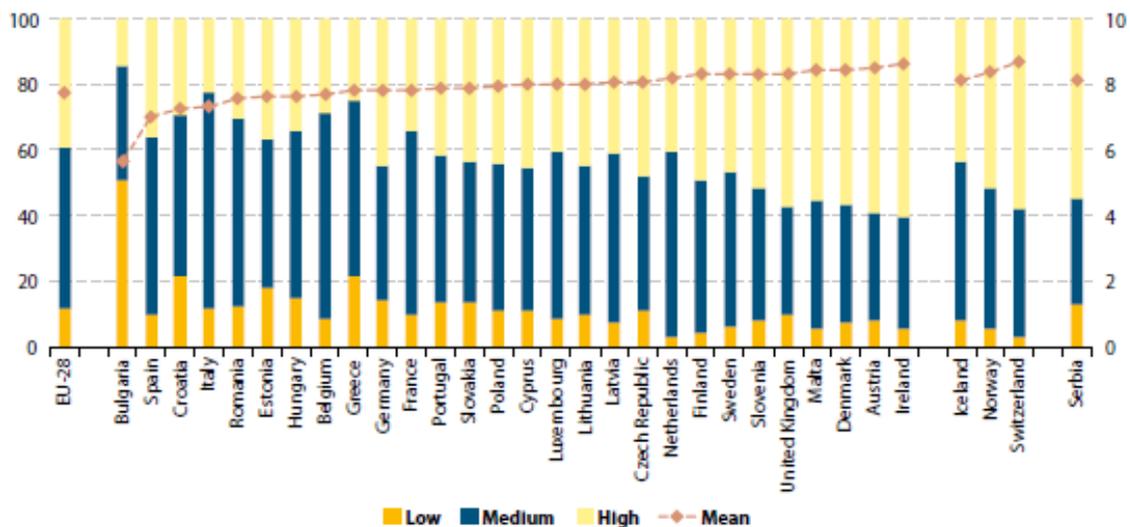
*“Social interactions are essential elements for an individual’s well-being”
(European Union, 2015).*

According a statistic of the European Union in 2013, Germans seem to be satisfied with their personal relationships, having a mean rating of 7.9 in a scale of 1 to 10 (See figure 5).

In addition, about 22% of German citizens aged between 18 and 65 and 23% aged more than 65 years, participate on activities of recreational groups or organisations (2006 data) (Eurostat, 2015). Such groups may include sports groups, hobby associations or leisure clubs. In the case of Germany, it is interesting to see that age is not a determinant to reduce the participation on recreational activities as in other countries. Old people in Germany appear to enjoy and join recreational activities as much as young people.

Regarding satisfaction of life and happiness, more than 50% of the Germans state that they feel most of the time happy, 25% are sometimes happy and around 10% is rarely happy.

Although there is no statistic about the social relationships on open public spaces, the statistics mentioned above show the level of happiness and satisfaction with the social relationships, which at the same time are essential for the mental health of the human.



Source: Eurostat (online data codes: ilc_pw01 and ilc_pw05)

Figure 5: Satisfaction with personal relationships, by country, 2013. Source (European Union, 2015)

Concluding on the health-related behaviors in Germany, we can deduce that the numbers of trips by bicycle are slightly increasing through the years, but still most of the trips are done by vehicle. In the case of Darmstadt, walking and cycling seems more popular, especially for small shopping and duties.

Regarding active recreation, almost the same percentage of people who exercise or play sports with some regularity also recreates actively in open public spaces (41% and 42% accordingly). Thus open public spaces tend to act as scenario for active recreation.

Concerning social interactions, Germans are satisfied with their personal relationships and more than the half of the population feel most of the time happy.

4.2 Open public spaces in Germany and Darmstadt

Germany has a territory of 357,409km² from which: 7.16% are built and free developed areas (Gebäude-und Freifläche), 1.27% recreational areas (Erholungsfläche) (e.g. parks, zoos, and sports facilities), 5.17% are traffic and infrastructure (Verkehrsfläche), 52.66% are agricultural areas (Landwirtschaftsfläche), 31.29% are forests (Waldfläche) and 2.44% are water surfaces (Wasserfläche) (See figure 6) (Statistische Ämter des Bundes und der Länder, 2016).

According to data of 2006 of the Environmental Federal Office of Germany gathered by the Corine Land Cover (CLS), the country has 12.5m² of outdoor recreational areas per inhabitant (Sport- und Freizeitflächen), and 4.6m² of green areas per inhabitant (Grünflächen). These values are similar to the average values of the EU (Umwelt Bundesamt, 2014).

In addition, agricultural areas, forests and water surfaces are also important in this report due to their potential to enhance positive health-related behaviours, as physical activity or social interaction. A study made along the river Rhine in Düsseldorf and Cologne (Germany) in 2015 recognizes the importance of the urban blue infrastructure because it enhances well-being and PA in the population. This study showed that the most popular activity around urban blue spaces is walking and contemplating the landscape. In addition, due to the longitudinal shape of the urban blue spaces (coast, rivers, lakes) particularly motivate people to carry out dynamic activities (jogging, walking fast, biking, etc.) (Volker & Kistemann, 2015).

Regarding urban public open spaces, around 75% of German citizens agree that there are many opportunities to be physically active around the area where they live. In addition, 42% of the population engage in sport of PA in open public spaces (in parks, outdoors, etc.), but most of the Germans engage PA or sport at home (46%) (See figure 7) (EU Commission, 2013).

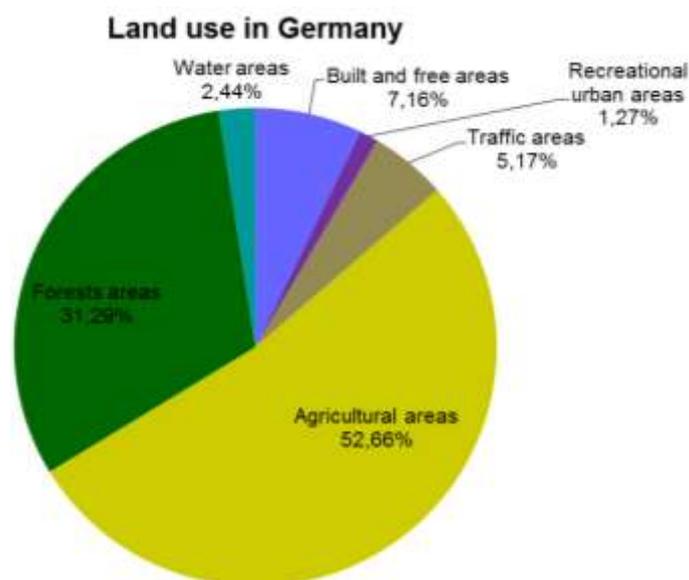


Figure 6: Division of land uses in Germany in 2015. Source: Statistische Ämter des Bundes und der Länder, 2016, own editing.

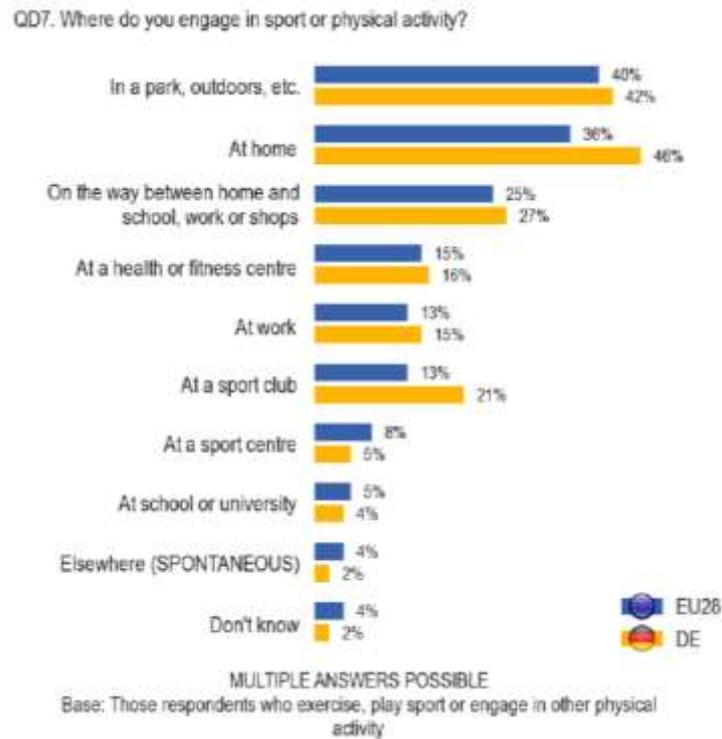


Figure 7: Places of engagement sport or PA in Germany and EU, 2013. Source (EU Commission, 2013)

The situation of green and urban open spaces in Darmstadt is positive. “Darmstadt is a city that has a lot of green space, to provide protected parks and forest. Darmstadt is surrounded by a forest belt, which covers 49% of the municipal area. This makes Darmstadt one of the most wooded cities of in Germany. Playgrounds, cemeteries, garden equipment, barbecues and the edges of waters and watercourses complement the Green structure in the urban space and promote the adventure and recreation in the city” (Wissenschaftsstadt Darmstadt¹, 2017).

According to an online survey regarding the importance of public green spaces made by the municipality of Darmstadt in 2013, where 710 citizens participated (45% men), the majority of the respondents (more than 55%) answered that they visit the green and park areas at least 3 times per week. In addition, the majority of the respondents (60%) confirm that they visit green areas and parks around 1 hour during week days and between 1 and 2 hours during the weekend (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016).

Regarding the social interaction in parks and green spaces of the city of Darmstadt, 15% of the citizens agree that they visit these spaces to be with other people (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016)

Regarding active travel through the parks and green spaces of Darmstadt, only 25% of the respondents agree that they use these spaces as connection between two different spaces (See Figure 13) (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016).

In addition, the features of parks more important for the Darmstadt citizens are: on the first place, maintenance and cleanliness. On the second place, trees in a good condition, and as third place, lawn flat areas to lie and play (See Figure 9) (Wissenschaftsstadt Darmstadt, Amt für Wirtschaft und Stadtentwicklung, Statistik und Stadtforschung, 2016)

Angenommen ein neuer Park würde geplant, welche Elemente wären Ihnen persönlich besonders wichtig ?

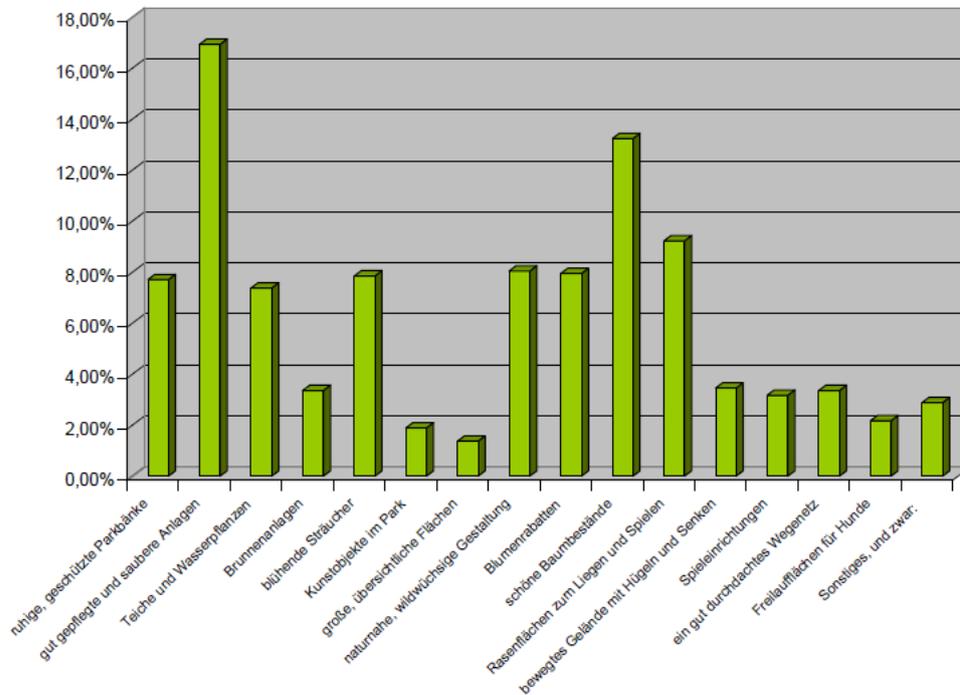


Figure 8: Citizen´s important characteristics of parks in Darmstadt, 2013. Source: (Wissenschaftsstadt Darmstadt, online, 2013)

The city ranks under the first fifteen greenest cities in Germany, which shows a great potential due to the availability and the active use of these green spaces. In addition, regarding active travel, the city of Darmstadt follows the country´s trend: the majority of the population goes to work by car, to sport facilities by bicycle and to do small shopping by foot. To conclude with this section, urban open public spaces seem to be important for the Darmstadt citizens who state that they visit the parks and open spaces to be active, to recreate, to meet other people or to have an active travel.

4.3 Policies and Practice

The following section offers an overview of policies regarding health and open public spaces in Germany and in the city of Darmstadt. This section includes insights gathered on surveys conducted to experts on the field.

Health

Germany forms part of the “Healthy Cities” movement, which is a global movement led by the WHO and the European Union forms part of it. The movement has as primary goal to put health high on the social, economic and political agenda of city governments and to be committed to health and sustainable development. The two strategic goals of Health 2020 are:

- Improving health for all and reducing health inequalities; and
- Improving leadership and participatory governance for health

In this context, the Federal Ministry of Health in Germany has a national initiative to promote healthy diets and PA, which involves working groups with ministries, scientific societies and associations, as well as individual experts in the fields of health promotion, prevention and sports (WHO⁵, 2017).

- Physical activity in older adults

In addition, Germany enhances various voluntary programs that promote PA and active aging in older adults. An example is “Balanced Ageing” (Älter Werden in Balance), which aims to provide information and tips for staying fit in everyday life and remaining agile and fit throughout the ageing process (WHO² 2017).

- Physical activity in the workplace

German statutory health insurance funds are required by law to support workplace health promotion in various ways. The AOK health insurance fund and General German Bicycle Club (Allgemeiner Deutscher Fahrrad-Club (ADFC)) coordinate the Cycle to Work scheme (Mit dem Rad zur Arbeit), established in 2004. Initiatives are in place in other companies to help employees to meet the WHO recommendation to walk 10 000 steps on every working day, and various other programmes exist across Germany to promote healthy lifestyles that incorporate physical activity, often led by health insurance funds (WHO² 2017).

- Physical activity in schools

Physical education (PE) in both primary and secondary schools varies across Germany owing to the federal system, with power devolved to the local level. PE is mandatory in primary and secondary schools across all states, and on average 3—5 hours are provided per week. In addition, various voluntary programmes, projects and measures exist for active school breaks between and during lessons, as well as schemes for after—school. An example is “Make children strong” (Kinder stark Machen), which was initiated in 1991 by the BzG, aiming to ensure children are robust for adult life by investing in physical activity from a young age (WHO² 2017).

The city of Darmstadt also promotes a healthy city and forms part of a network of “healthy cities” in Germany (Gesunde Städte Netzwerk des Bundes Republik Deutschland) which the main objectives are:

- To develop healthier living conditions and create a living environment conducive to good health,
- To strengthen the responsibility of citizens for healthy living conditions,
- To promote the participation of citizens in planning and design processes,
- To enable the access to health policy and relevant information for all, as well as
- To connect the diverse health landscape in Darmstadt ((Wissenschaftsstadt Darmstadt², 2017)

Open public spaces

According to the expert interview with the leader of the Urban Planning office of Darmstadt, the city of Darmstadt has a Landscape Plan (Landschaftsplan der Wissenschaftsstadt Darmstadt), which in conjunction with the program “25 steps to the biological diversity in Darmstadt” (25 Schritte zur biologischen Vielfalt in Darmstadt), help to integrate all the open public spaces in the city. In addition, Darmstadt has in process the Masterplan 2030, which includes as well a new mobility concept. It also foresees the expansion of the pedestrian and bicycle lanes (Krehbiehl, J. 2017).

The city of Darmstadt was planning to host the State Garden Show (LGS) in 2020, as an integrated attempt to showcase best practices of open green space and urban development, which recently had to be cancelled due to lack of economic resources. Nevertheless, there still remain an urban renovation project called “Stadtumbau Ost” which started in October 2016 and the objectives are: to improve the public spaces, to connect the blue and green infrastructure, to upgrade the residential environment and to modernize the area. This project should be realized by 2030.

According to the expert interview with the leader of the Green Areas Department of Darmstadt, there are two instruments that allow new open spaces in the city: the land use plan and the zoning plan. Nevertheless, the expert expresses that *“an extension of existing green spaces is usually not possible, because the space is not available. However, the green space system is expanded gradually through the development of new building zones”* (Fath, D. 2017).

Regarding the planning of open spaces and the promotion of health, the expert mention that the planning of green and open areas have to be multifunctional, offering a great amount of activities for all users (specially with sports and playing features), and have to be easily accessible. Bicycle lanes through parks and open spaces are not being promoted by the authorities due to the arising conflict between cyclists and users of the space. In addition, the expert mentions that there was in the past an effort to approach health with a working group with different offices but also health organizations (health insurance companies, associations, institutions) but the work was discontinued for capacity reasons (Fath, D. 2017)

In conclusion, more cooperation between different departments, institutions and civil society is needed to achieve better results. Though the information of the expert interviews, we could detect a lack of cooperation between the instances related to open spaces and the instances related to health.

5. Conclusion

Regarding health-related behaviours set out in the PREHealth project, German citizens tend to use open spaces frequently, exercise or do sports, walk and bike more than the European counterparts, except than The Netherlands and Scandinavian countries. Statistics of the European Union show that German citizens engage more in PA and active travel for recreational purposes in comparison with the rest of the EU. On the other hand, statistics also show that more than half of the adult population and more than $\frac{3}{4}$ of the children population do not meet the minimum standards of PA recommended by the WHO and females are always less likely to be active. This fact is alarming and calls for action in Germany as well as the rest of the EU countries.

It is important to highlight that in Germany, the adult population enjoys and participate as much as the young people on recreational activities and visit more often the open public spaces. Generally, Germans seem to be satisfied with their lives and relationships, which shows that the community has good levels of social interaction. Nevertheless, more research on the social interaction of the citizens with their different socio-economic background and the role of open public spaces is needed.

Open public spaces in Germany seem to be important and often used by the citizens. Nevertheless, it is also seen that the trend of urbanization in Germany increases as in the rest of the world. This trend threatens the open public spaces and their accessibility, which are already difficult to extend due to the lack of available space in inner city areas. New open public spaces can be only allowed through a master plan or a plan with a similar importance.

It is important to notice that, although there is accessible information and statistics about the health of the citizens, there is a lack of information about specific behaviours of the citizens (specially of social interaction) on the open spaces. For example: the amount of women, men and children on parks and the specific activities they engage in. More research is needed on this area in order to understand the usage of these spaces and to plan future spaces with health in mind.

It is imperative to call for more cooperation between different institutions and bodies to achieve better results on the field of urban planning and health. Although there are good policies and practices on the urban planning and health departments separately, it would widen the perspective on the topic and deliver efficient results on the problem of health behaviours and open spaces mentioned above.

Germany as well as the city of Darmstadt form part of movements that promote healthy cities. Therefore, policies engaging the most vulnerable population (elderly, people working in offices, and children) exist. Nevertheless, numbers and statistics show that females in general are a group on risk of having unhealthy behaviours, and no specific policies are being implemented to tackle this problem.

Conclusively, this report aimed to give an overview of the situation of health-related behaviours and the open public spaces in Germany and in the city of Darmstadt and shows that more research on the topic and more cooperation between institutions when planning is needed.

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