

GRÜNAU MOVES - „GRÜNAU BEWEGT sich“

Community-based health promotion and obesity prevention for children and adolescents in a district with particular social challenges in Leipzig, Germany



Project Fact Sheet



DURATION

Jan 2015 – Dec 2019

INITIATORS

Children's Hospital - University of Leipzig, Social affairs and Health - University of Applied Sciences (HTW)K Leipzig, City of Leipzig (health office)
Health insurance AOK PLUS

LOCATION

Urban district Leipzig Grünau (large housing estate)

STAFF

coordinator, social worker, research assistant, public relations staff

FUNDED BY HEALTH INSURANCES



Die Gesundheitskasse
für Sachsen und Thüringen.



PERFORMERS



Stadt Leipzig

Accompanying projects boards

- Advisory board (annual meetings)
 - Representatives from
 - Participating universities
 - City authorities (social welfare, education, schools, health, city planning, green spaces and playgrounds)
 - Health insurances
- Project steering group (meetings at least all 6 weeks)
 - Operational team
 - Health office of the City of Leipzig
 - Representative of the funding (health insurance)

Cause for action



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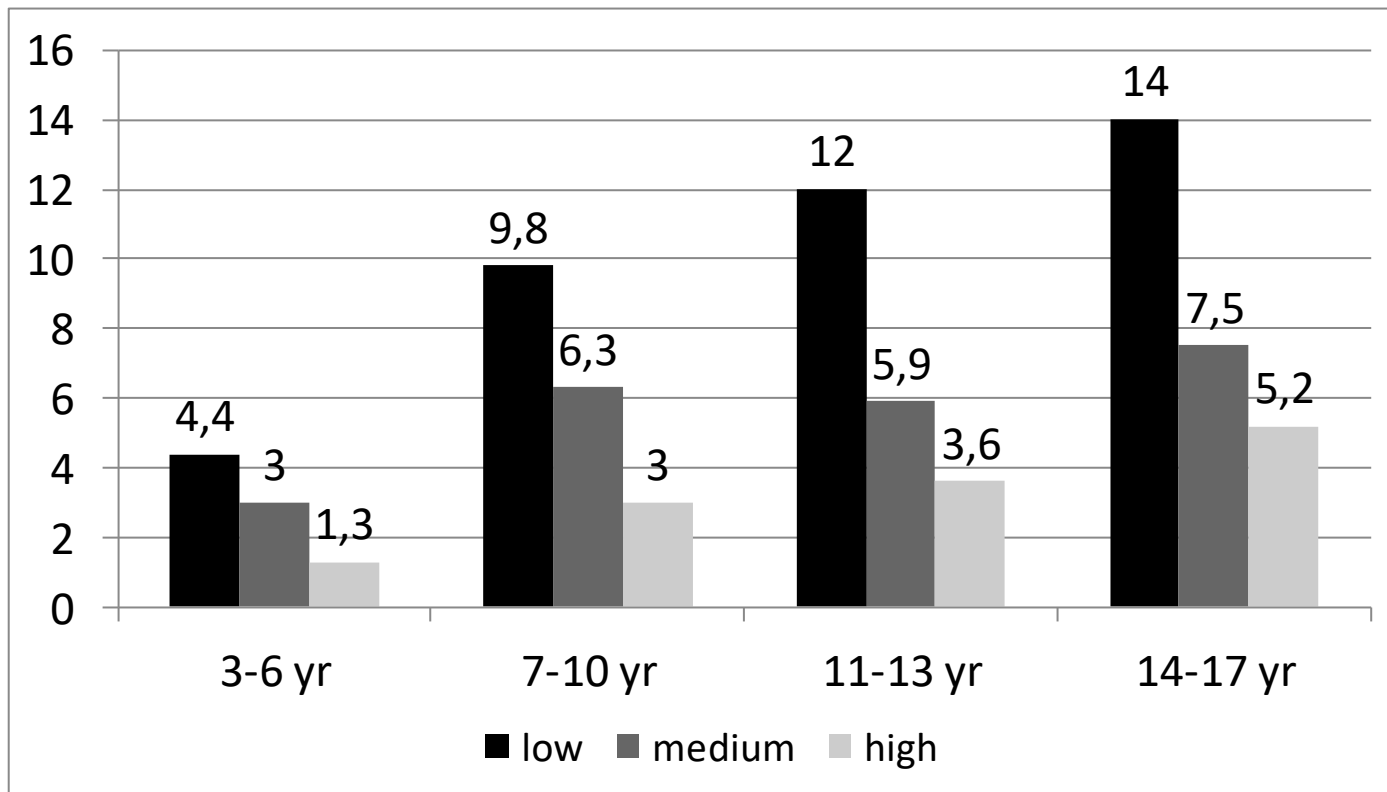
What we already know:

SOCIALLY DETERMINED HEALTH INEQUALITIES

What is empirically proven:

**Higher prevalence of overweight and obesity
in children and adolescents...**

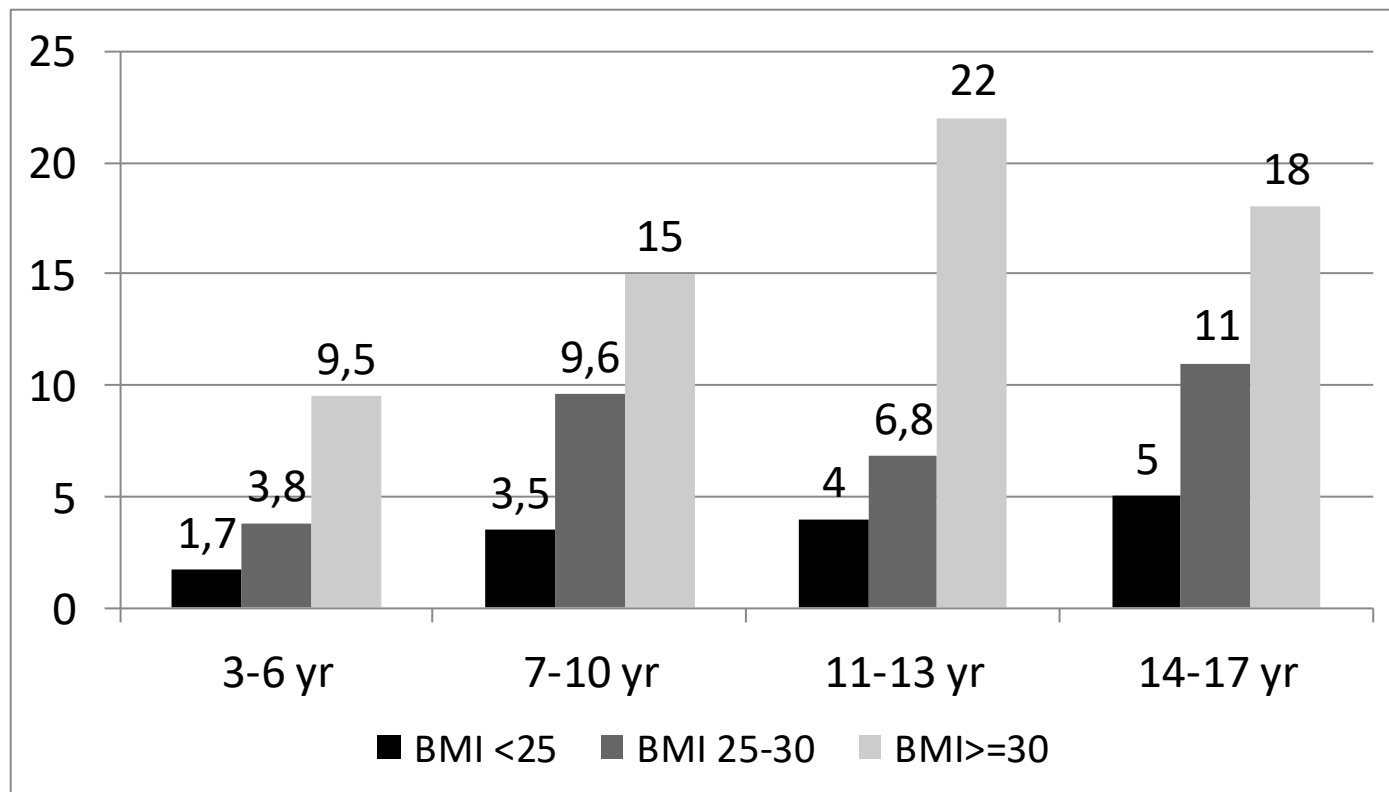
- ... from families with low social status (education, employment status, income) (Shrewsbury & Wardle 2008; Lange et al. 2010; Kurth & Schaffrath Rosario 2007)



Kurth & Schaffrath Rosario 2007 – Obesity prevalence (%) by social status

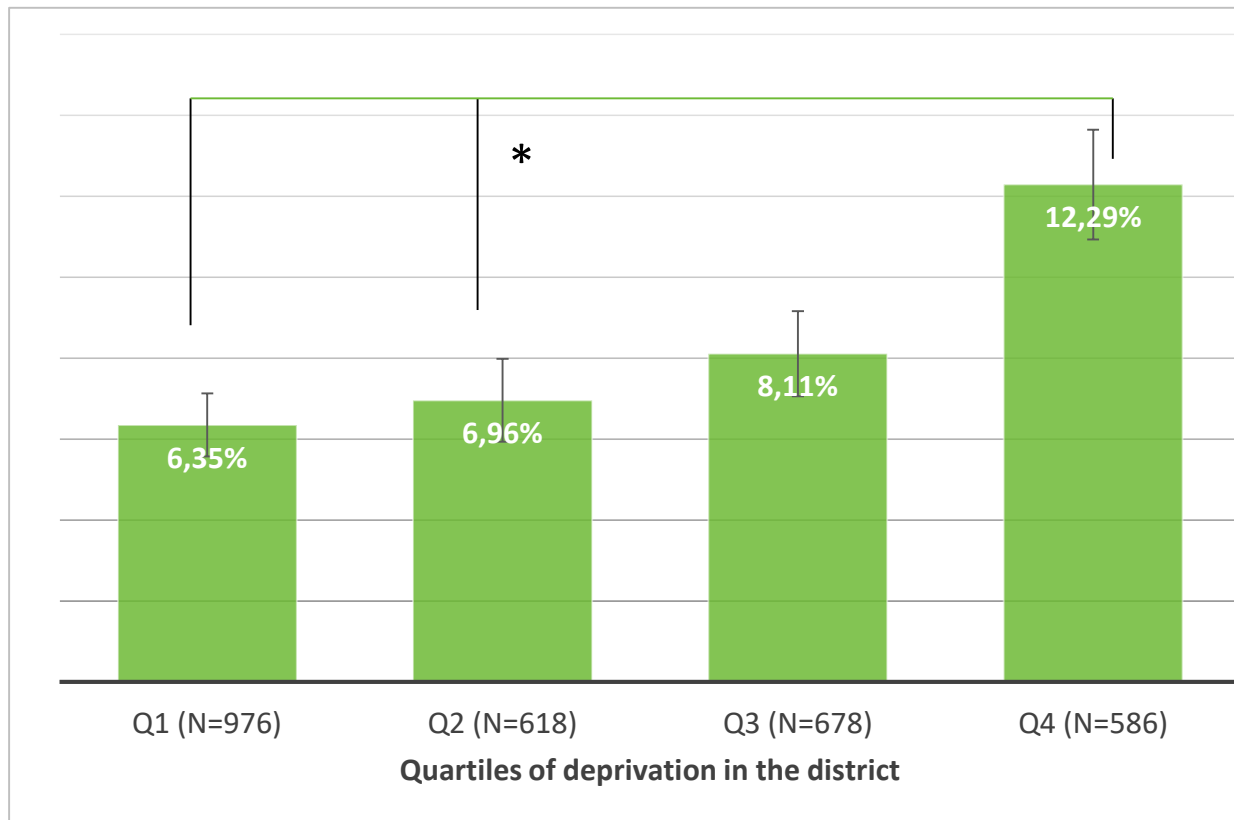
- ... from families with overweight parents

(Danielzik et al. 2004, Kurth & Schaffrath Rosario 2007)



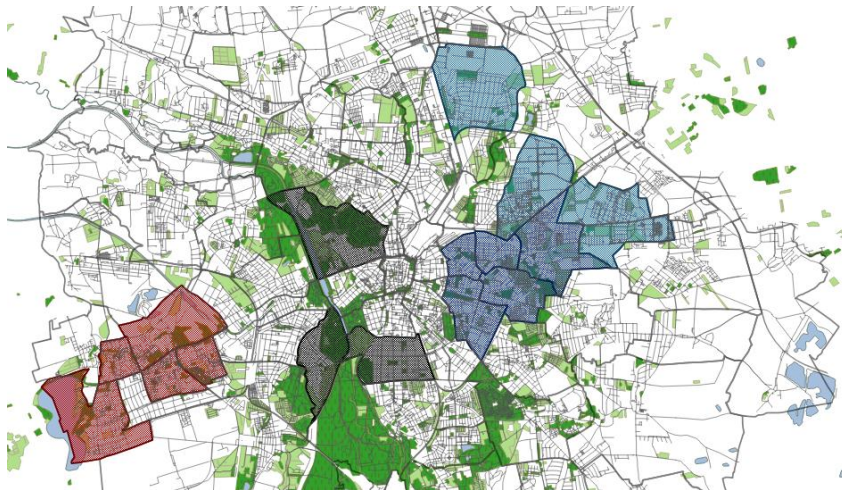
Kurth & Schaffrath Rosario 2007 – Obesity prevalence (%) by BMI mother

- ... from disadvantaged residential areas (Carter & Dubois 2010; Igel et al. 2013)



Igel et al. 2013 – Overweight prevalence by deprivation in the local district

Intervention Area



Characterization (City of Leipzig 2015)	Intervention region	Control region	Control region 2	Contrast region
Inhabitants children 0-15	44772 12.4%	62822 13.0%	34593 10.4%	47778 17.2%
% of children receiving social welfare	42.8	41.5	37.7	6.2
Unemployment rate (%)	10.9	9.6	10.2	3.6
% of residents with lower secondary school leaving certificate	23.4	16.6	24	3.7
Personal net income	1136€	1120€	1160€	1606€
Prevalence overweight/obesity at school entrance examination (2015/16)	12.8%	9.8%	11.2%	2.8%

The Mission



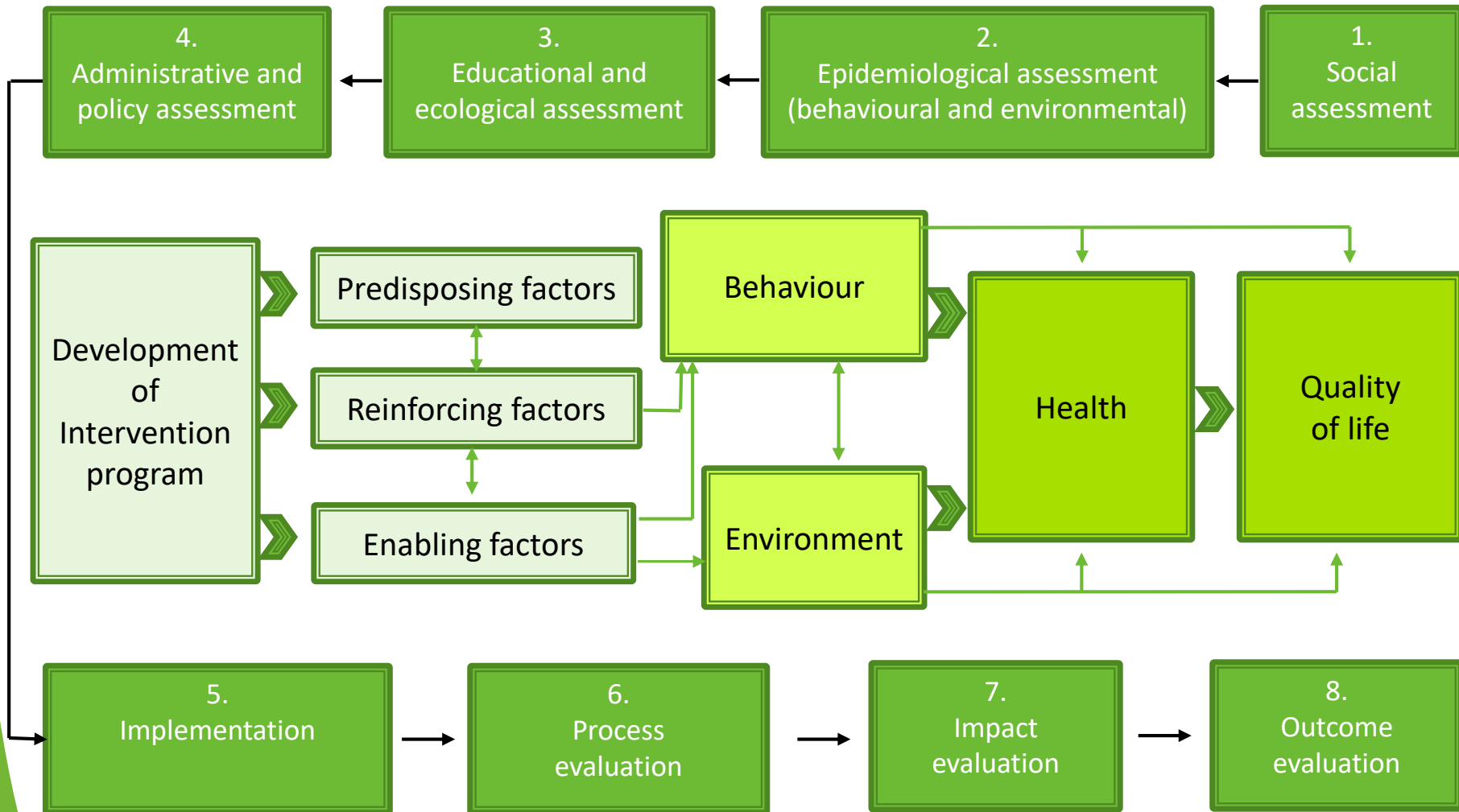
- Doing something against the progressive rise in obesity prevalence among children in a socially disadvantaged urban area of Leipzig
- accompanying the capacity building for prevention and health promotion (targeting structures and conditions)
- Promoting health and healthy weight development in children



Approach: Community-Based Health Promotion

- Participatory and context-sensitive development of health promotion measures
- Joint action with local actors
 - Taking into account local needs and resources
 - Creating health promoting settings
 - Involving key stakeholders
 - „knowledge for action“

Conceptual Model: PRECEDE-PROCEED



At first:

Analysis of the Intervention Area

- Social factors
- Epidemiological factors
- Educational and environmental factors
- Political and organisational structures

Sources for Social and Epidemiological Analyses

- **Primary data:**
 - Interviews and case studies
 - Observation of the living environment and the surroundings of the day-care and school, playgrounds, the range of food availability
- **Secondary data:**
 - Official data on residence characteristics and built environment
 - Data from school entrance examinations (health office)
 - Data from municipal citizens surveys

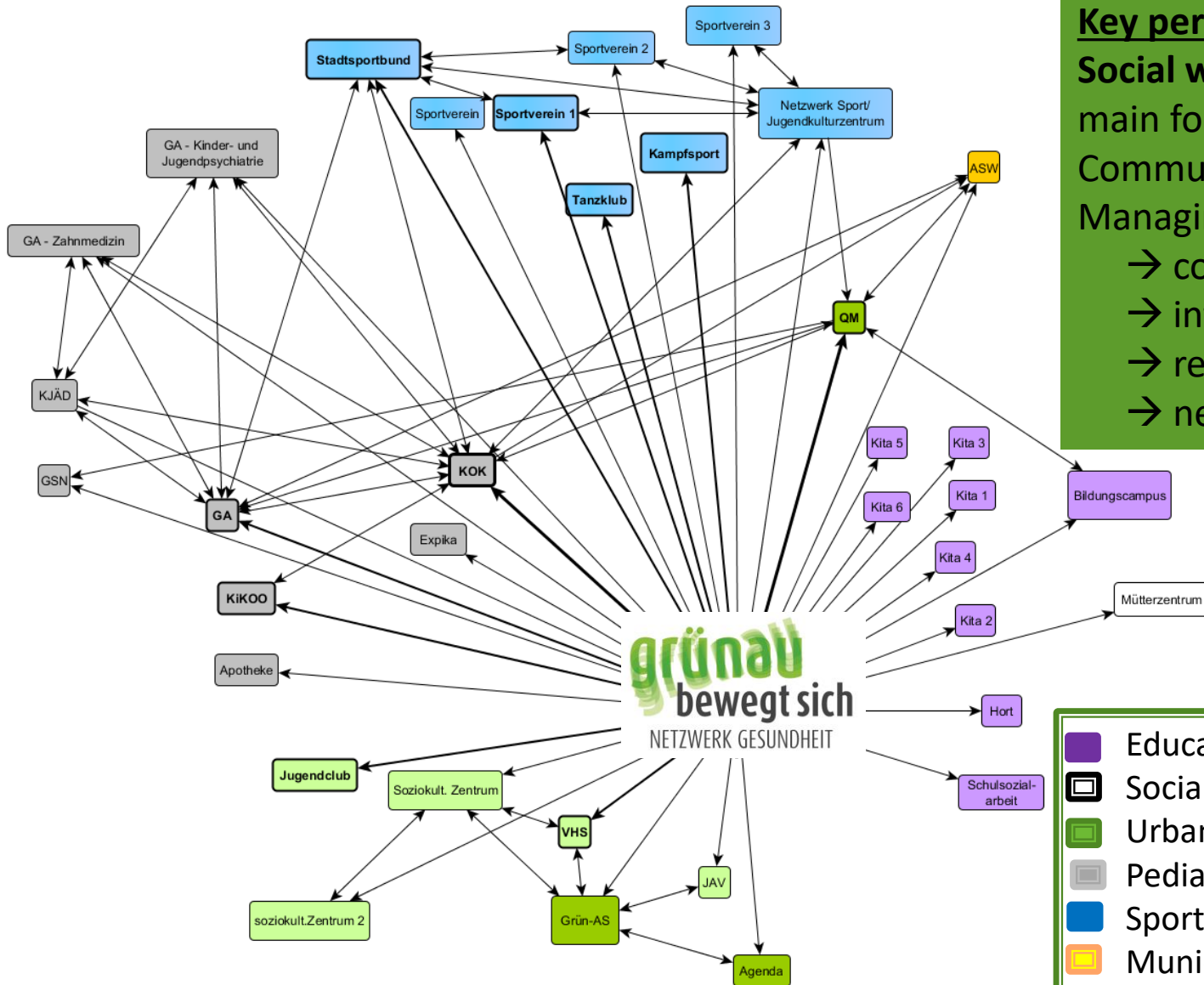
Analysis of the Political and Organisational Structure

- What resources, barriers, legal requirements are available?
- What and who do we need to plan and implement interventions?
 - meetings with stakeholders (local, municipal)
 - Knowledge of legal and municipal regulations (education plan, district development concept...)

„Understanding the Community“

- Identifying problems, needs, resources from the perspective of local people (bottom-up and top-down)
 - Learning about attitudes towards prevention and health in the specific context of the living environment
- **Establishing a local interest group for healthy growing up of children = Health Network**

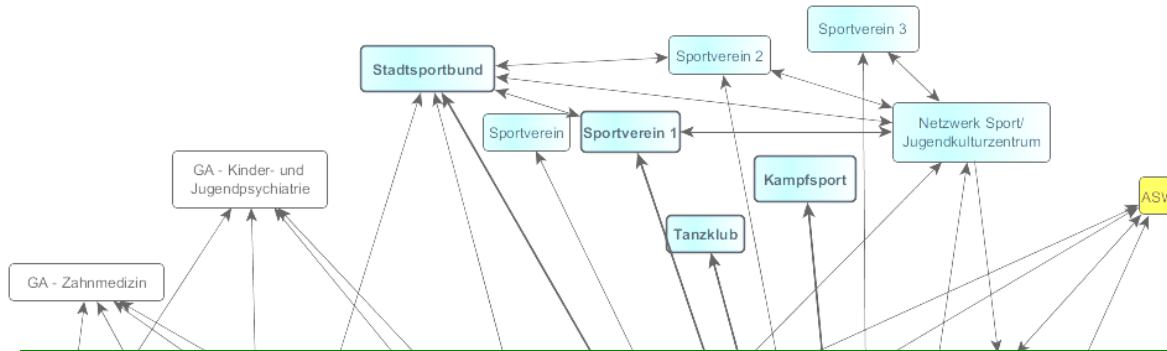
The Health Network



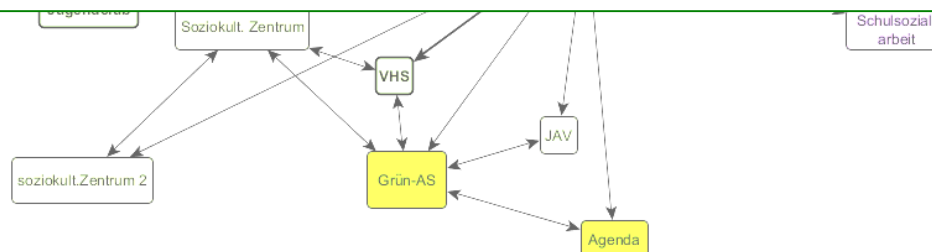
Key person:
Social worker with main focus on
 Community organizing
 Managing of
 → contacts
 → interests
 → resources
 → needs

- Educational institutions
- Social facilities
- Urban district work
- Pediatrics/Public health
- Sports
- Municipality

The Health Network



- Needs assessment, intervention development and implementation
- Linking providers (e.g. sports clubs) with interested parties (e.g. day-care centres, schools, youth clubs) and networkers (e.g. neighbourhood management, parents' network)
- Semi-annual meetings
- Coordinated actions in the neighbourhood



Implementation of Interventions: Using different Paths!

- **Access (settings)**
 - Day-care centres, schools (after-school-care), public space, project contact point, playgrounds, neighbourhood management
- **Target groups**
 - Professionals, children, parents, residents, district representatives
- **Type and nature of offers**
 - Open and voluntary, compulsory, accompanying

Stay Close to the Inhabitants, Ask for...

- **Predisposing factors**

- Which individual characteristics influence dietary and physical activity behaviour on site?

- **Reinforcing factors**

- Which social factors support or hinder health-promoting behaviour on site?

- **Enabling factors**

- How can conditions (and behaviour) be changed on site?

Developing interventions: Intervention Mapping Protocol 1-3

www.interventionmapping.com

Bartholomew LK et al. Planning health promoting programs. An intervention mapping approach. Jossey-Bass, San Francisco (2006)

Select or create a logic model of the health problem

- a. Develop description of the health problem
- b. Ask extensively why the problem exists

Define program outcomes and objectives, and logic model of change

- a. Create matrices of change objectives
- b. Select determinant for behavioural and environmental outcomes
- c. Create a logic model of change

Design the program

- a. Generate program themes
- b. Select and design practical applications

Intervention Mapping Protocol 4-6

www.interventionmapping.com

Bartholomew LK et al. Planning health promoting programs. An intervention mapping approach. Jossey-Bass, San Francisco (2006)

Produce the concrete intervention

- a. Integrate methods and the practical applications into an organised program
- b. Prepare plans, draft materials, messages, and protocols

Define a plan for implementation

- a. Identify potential users, plan the adoption
- b. Define implementation and sustainability of the program in real-life contexts

Define an evaluation plan

- a. Write effect and process evaluation questions
- b. Develop indicators and measures for assessment
- c. Complete an evaluation plan

Why do People Behave in a Certain Way?

What are the Influencing Factors?

Main Questions:

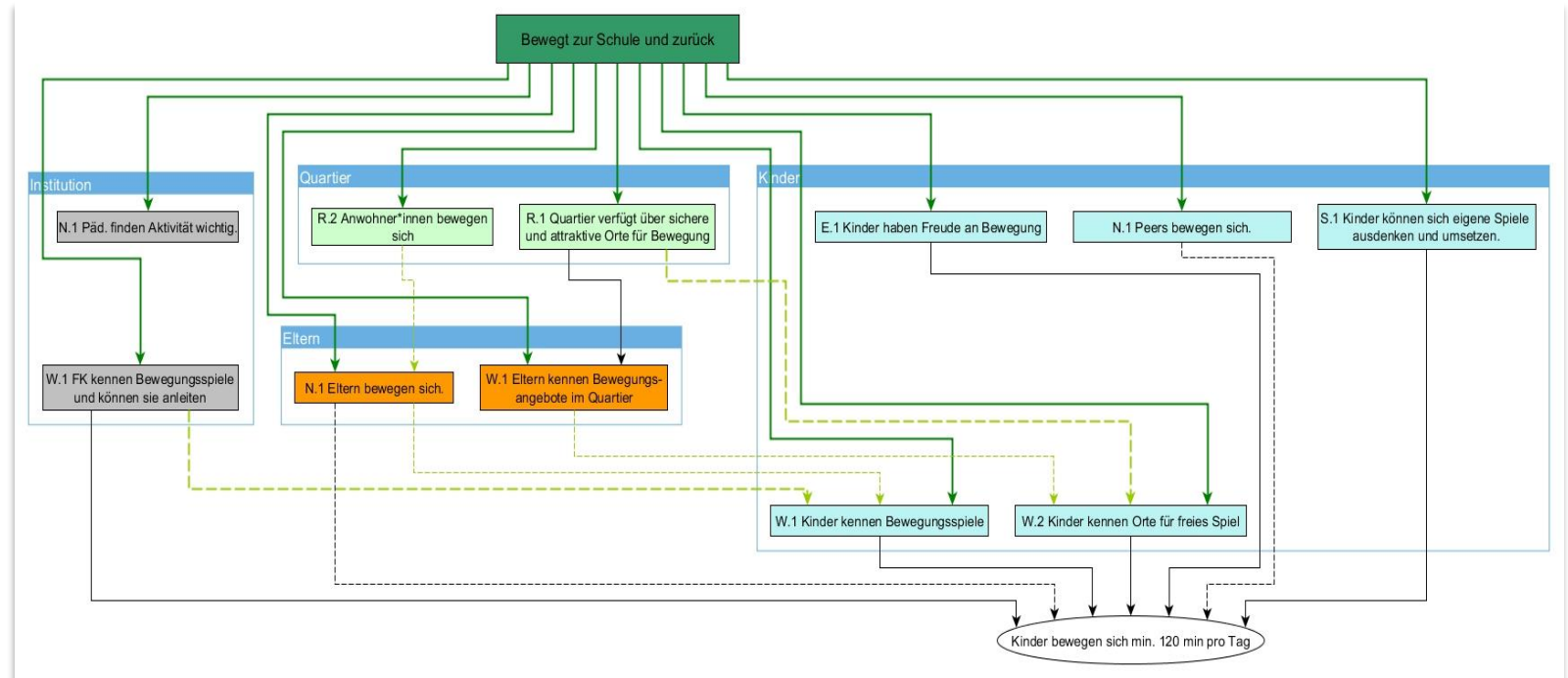
- What is relevant?
- What can be changed?
- Who is responsible?
- How can change be brought about?

Note:

- Specifics of the target group
(age, gender, origin, ...)
- Specifics of the settings/contexts
(resources, framework conditions, ...)

Intervention Mapping

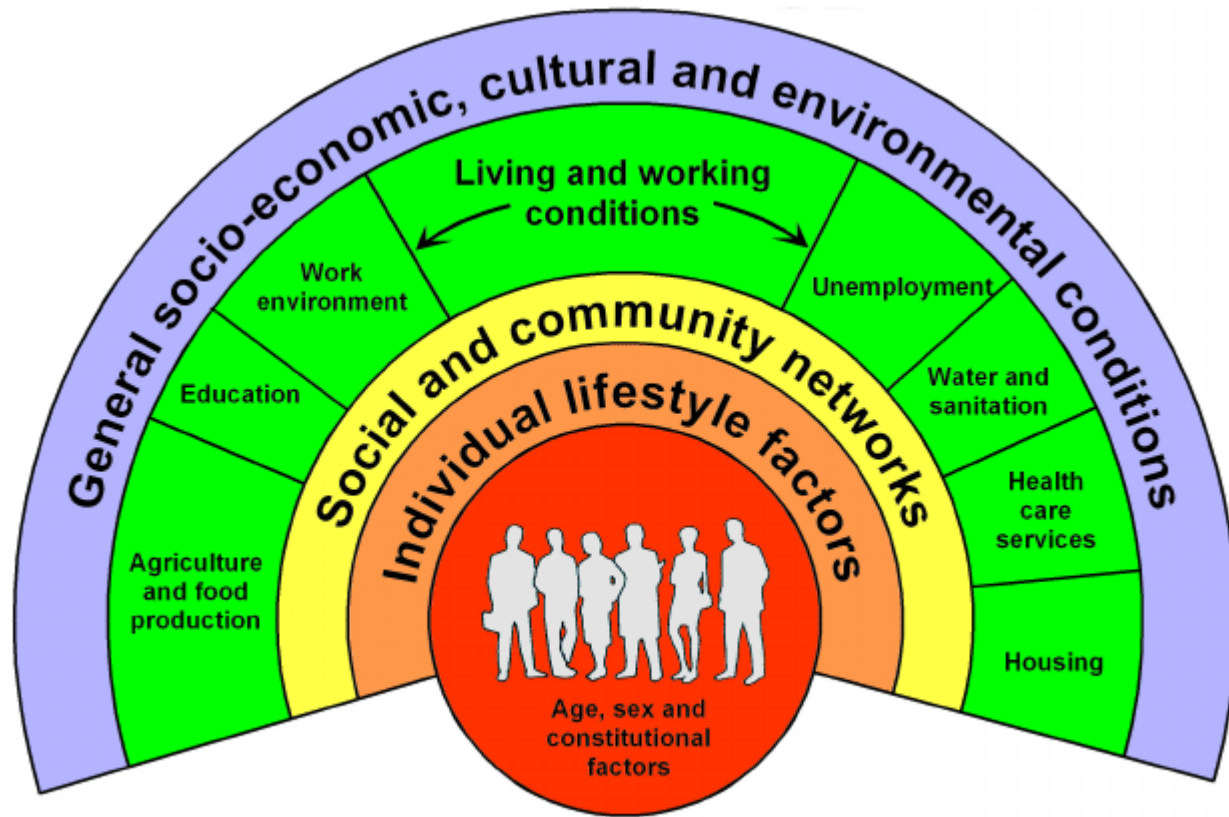
Example Intervention mapping matrix: active to school...



© Grünau bewegt sich

- Distinguish intervention levels
- Look for norms and attitudes in the target groups
- Define several smaller and achievable objectives
- Involve possible resources
- Keep the overall goal in mind

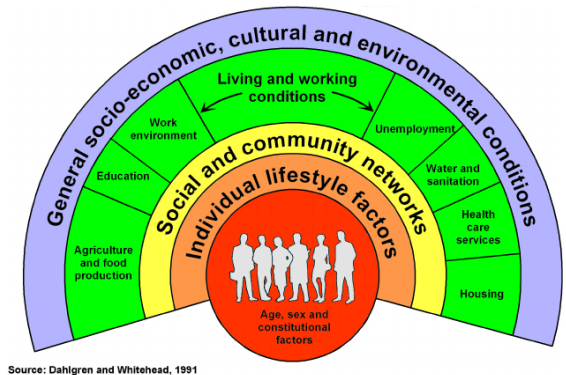
Levels for Health Promotion and Obesity Prevention



Source: Dahlgren and Whitehead, 1991

Connecting link: Living environment > Methodology: Intervention Mapping

Interventions at Different Levels of Influence



	Individual lifestyle factors	Social and community networks	Living and working conditions	Socio-economic, cultural, environmental conditions
Active to school and back				
Health network				
Public relations				
Qualification of professionals				
Grünau Football Cup (for day-care centres)				
Day of action „Healthy eating“ for preschoolers				
Free play – motion detector and „Spielmobil“				
PlaySpace				
Movement City Map				

Active to School and Back

Objectives:

- Increasing physical activity (in public spaces)
- Self-efficacy (through participation)

Realisation:

- Participatory planning process with two primary schools in cooperation with landscape architect and after-school care
- Coloured markings on footpaths close to schools in cooperation with Grünau citizens' association
- Supported by the urban administration of Leipzig and the Neighbourhood Management Grünau



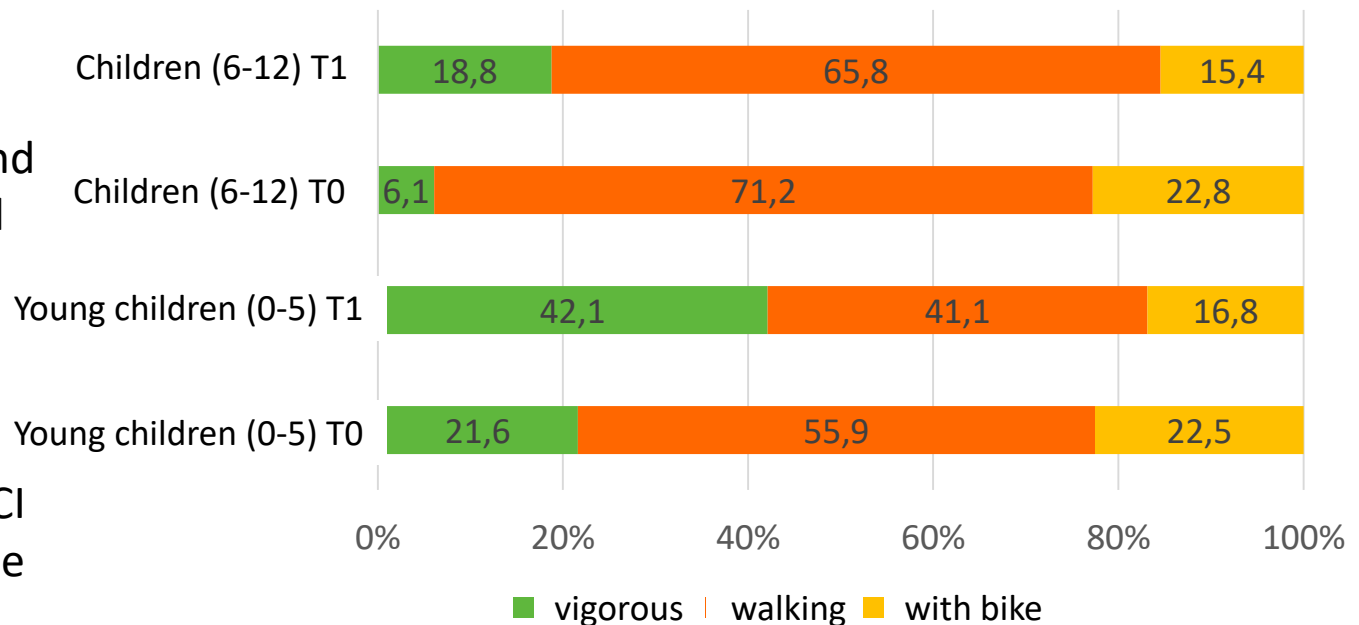
Active to School and Back: Effects

Methods:

Standardised observation (SOPARC) before (T0) and after (T1) marking; 48 observations; 5455 passers-by recorded

Results:

25.6 % of the younger children and 18.6% of the school children used the markings.
The chance of vigorous activity increased by 2.45 (CI 1.54-3.89) times due to the design.



➤ **Increased activity in children!**

Grünau Football Cup

Objectives:

- Increase in physical activity (in public space)
- Self-efficacy (recognition)
- Increase in cooperation between day-care centres and sports clubs

Realisation:

- Idea of local day-care centres taken up and expanded
- Annual football cup between day-care centres in public spaces
- In cooperation with sport and cultural associations from Grünau



Grünau Football Cup: Participation and Effects

- 11 out of 19 (58%) day-care centres and 6 out of 9 (67%) primary schools participated
- A total of 550 active children and about the same number of children, parents and educators who watched, cheered on and took advantage of the framework program
- Increase in cooperation between sports clubs and day-care centres with regular offers





PlaySpace Grünau

Objectives:

- Increasing physical activity (in public space)
- Getting to know places and games where people can be active
- Increased active use and appropriation of public space in leisure time



Realisation:

- Joint project with (students) the department of primary school didactics in sports (University of Leipzig) at primary schools in Grünau with the support of the State Office for School and Education
- 8 weeks of physical education with a focus on active outdoor space exploration

PlaySpace Grünau: Participation and Effects

- 285 children from two primary schools in Grünau participated
- observations give evidence of increased activity and less refusal of rather “exercise-adverse” children
- Teachers benefit from student support and new ideas for teaching in public spaces
- Students gain teaching experience, are sensitised for the living environment and possibilities of activity in public spaces
- Development of a manual on active games/sports in public spaces



Free Play Offer in the Contact Point „Motion Detector“

Objectives:

- Promotion of physical activity in public spaces
- Increasing self-efficacy and empowerment

Realisation:

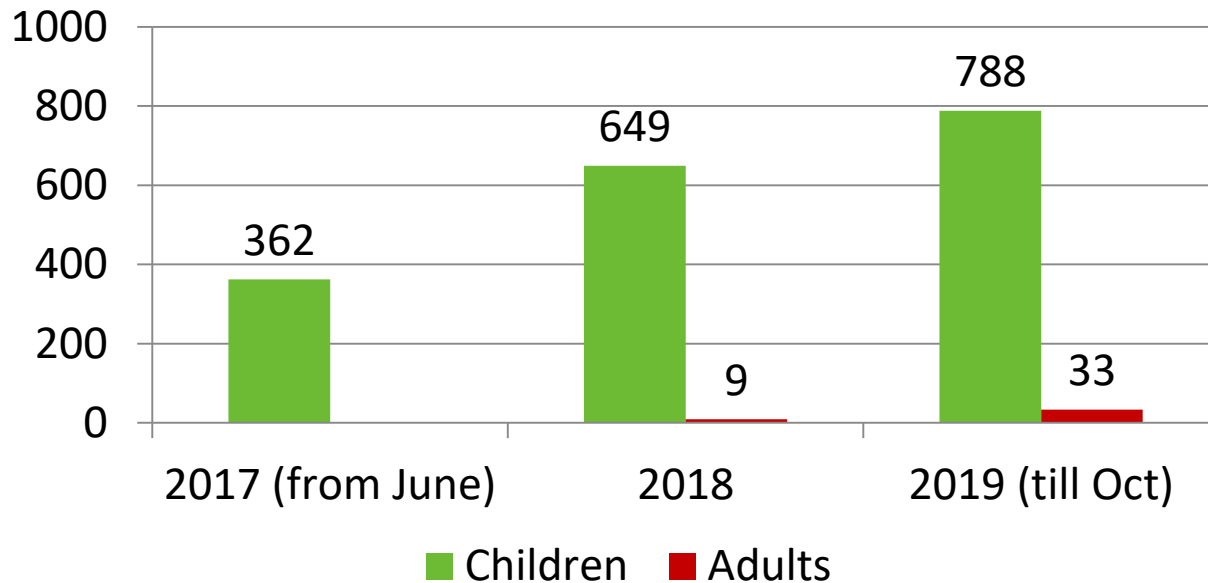
- May 2017: student project and experiment on the use of mobile play equipment
- Since June 2017: Weekly needs-oriented (play) offer in the contact point “Motion Detector”
- Since January 2018: Support through a mobile play offer of street workers (“Spielmobil” - bus with playing equipment)
- Expansion of the offers in “Motion Detector” to the areas of healthy nutrition (GeschmacksSache), participation and activation (Photovoice), family play afternoons, etc.

PLAYING DESIRED!

Laughter and romping around is expressly permitted for children and adults alike.

Playing time for children and their families
Every Wednesday 03-06 p.m.
Every last Sunday of the month 02-05 p.m.

Motion Detector: Participation and Effects



- Longer playing time due to guidance (7 min vs. 33 min playing time per person)
- Empowerment of children
- A socio-cultural association takes over the supervision of the weekly play offers

Further Interventions



- Public relations: Monthly poster campaign: „Colourful, healthy, Grünau“
- Annual training for multipliers and staff of day-care centres
- Semi-annual action days for pre-schoolers „Healthy eating“
- Movement City Map - advisory material for interested parties
- Healthy eating at day care centres – participatory workshops and organisational development
- Playground ranking and parent survey
- Public discussions on food availability and health data in different urban areas

FACT SHEETS FOR FURTHER INTERVENTIONS:

<https://www.leipzig.de/jugend-familie-und-soziales/gesundheit/gruenau-bewegt-sich/#c82646>



Results:

Community/Environmental Level

- 2 permanent decorated foot path according children's ideas
- Establishment of a local health network with various stakeholders
- Continued financing of a social worker with main focus on community organizing and child health
- Health promotion(for children) is included in the „Integrated district development concept“
- Parental survey: increase by 6.5% ($p=0.046$) in visibility of active persons in public spaces



Results: Organisational Level

Semi-structured interviews day-care centres 2019 vs 2016

- Health promotion is an important issue in most of the day-care centres
- Cooperation between day care centres and sports clubs and health professionals increased in 11 of 13 institutions
- Social problems of families (unemployment, poverty, violence, migration) are challenging and of high priority
- Two day-care centres changed their afternoon snack to provide healthier food

Grünau Football Cup

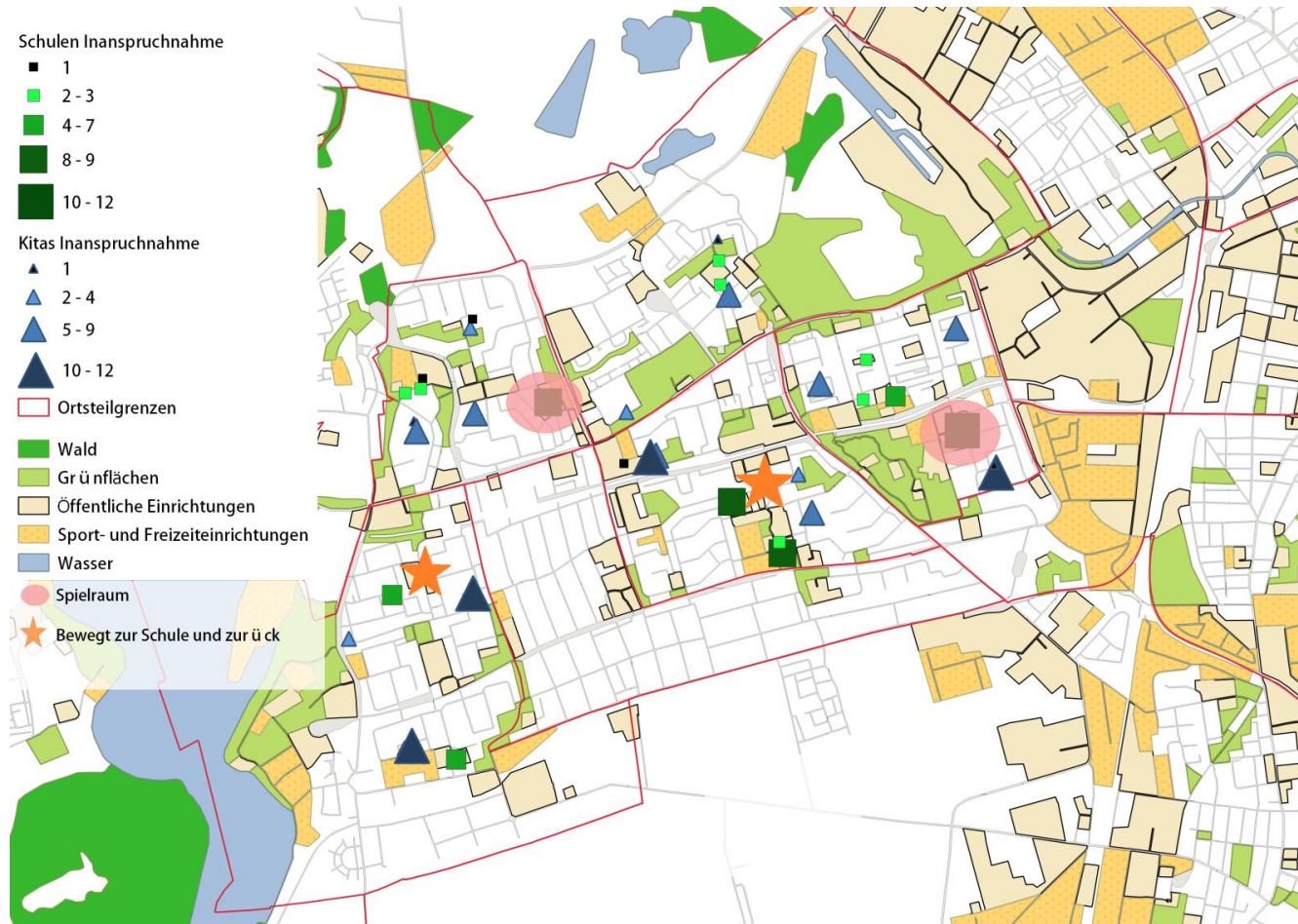
- Continuation under the responsibility of local sports clubs



PlaySpace Grünau

- has become part of the curriculum for students of Educational Sciences at the University of Leipzig

Results: Location of and Participation in Interventions

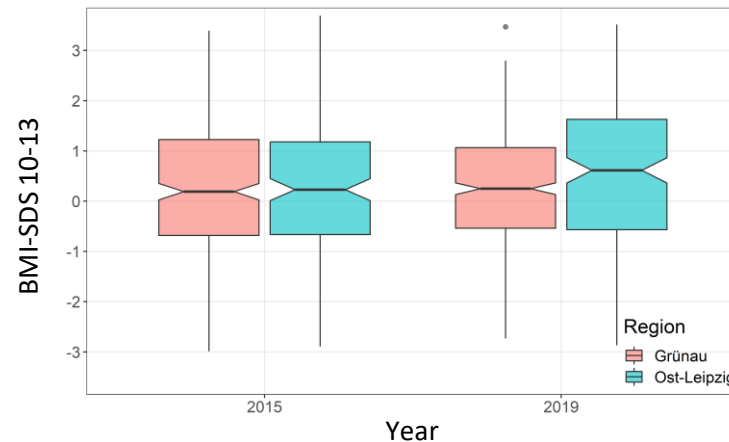


Results: Individual Level

Parent survey	2016/17	2018/19	p
Proportion of children being overweight or obese (school enrolment examination)	13% (n=169)	10.1% (n=220)	0.36
(almost) daily active outdoor play	34.4% (n=122)	47.2% (n=214)	0.046
Regular participation in sports clubs (at least 1 to 2 times per week)	34.4% (n=125)	43.9% (n=212)	

Changing of the mean BMI-SDS measured by local paediatric practices

Children by paediatricians
Age classes
4-7 (n ₂₀₁₅ =541/n ₂₀₁₉ =604)
7-10 (n ₂₀₁₅ =356/n ₂₀₁₉ =491)
10-13 (n ₂₀₁₅ =340/n ₂₀₁₉ =469)



Stratification IR/CR

Control region: Leipzig urban area with comparable structural and socio-economic indices

Only significantly different in oldest group

* p < 0.05

Economic Aspects

Personal expenditure

The project needs **human resources of 1,5 -2 social workers** with **focus on community organizing** (at least 0.75 staff position) and furthermore on basic qualification in public health promotion, empowerment of children/ deprived families, and multiplier training.

Social workers should have a great openness and appreciation for the living conditions and problems in a deprived neighbourhood.

Material costs

	€	interval
Maintenance contact point at district	200	Per month
Website	6	Per month
Consumables information materials	30-50	Per month
Several interventions in institutions and/or public spaces (including fees)	1200 (240 p.a.)	Average per institution/ public place over 5 years
Family health days (and other events) for the district	50-500	Per event

Transferability – Ten Statements on Health Promotion (I)

Community-based health promotion

- must acknowledge without judgement that health is weighted differently in various life plans.
- can only take place from a “lifeworld” perspective. That means that individual “lifeworlds” (Lebenswelten) of participants and community-members need to be understood. Only in a second step, the starting points and objectives for health promotion are determined.
- should place special emphasis on the additional benefits of health-promoting measures (e.g. social recognition, social integration, self-efficacy, empowerment, happiness).

Transferability – Ten Statements on Health Promotion (II)

Community based health promotion

- should basically work in a population-related or setting-related manner in order not to produce new discrimination (no assignment of need). Health promotion should therefore create health-promoting conditions in local institutions and settings that are easily accessible without special requirements.
- must therefore acquire a comprehensive knowledge of the community and address the needs and interests of participants, residents, local institutions and decision-makers .
- should be inter- and transdisciplinary and incorporate methodological and theoretical approaches from differing disciplines (sociology, medicine, public health, psychology, environmental sciences, etc.).

Transferability – Ten Statements on Health Promotion (III)

Community based health promotion

- must be planned and implemented on-site within a participatory process. This requires trust and relationship building in the community, which takes more time. Therefore, financial and personnel continuity regardless of funding programmes is crucial.
- needs (for ethical and economic reasons) a theoretically and/or empirically based impact model for each intervention and should evaluate processes and effects by means of appropriate and pre-defined (impact) indicators.
- must advocate equity and be involved in political processes at local, state and federal level in order to raise awareness of the consequences of social inequality at the individual and societal level.
- needs political support because social inequalities in health can only be reduced in the long term through political and social strategies.

Project Related Publications

- Igel U. et al. (2020): „Movement-enhancing footpaths“ – A natural experiment on street design and physical activity in children in a deprived district of Leipzig, Germany. Preventive Medicine Reports 20, 101197; doi: 10.1016/j.pmedr.2020.101197
- Igel U. et al. (2020): Gesundheitsförderung und Adipositasprävention in Kitas - Ansatzpunkte für kommunale Gesundheitsförderung. Adipositas 2020; 14:1-9; doi: 10.1055/a-1120-4378
- Krapf A. et al. (2020): SpielRaum-Aktive Raumnutzung von Grundschulkindern im öffentlichen Raum. Sportunterricht Schorndorf 2020; 69(4): 166-171; doi: 10.30426/SU-2020-04-4
- Igel U. et al. (2019): „Grünau bewegt sich“ – Zwischenbetrachtung und Zukunftsperspektiven. Erfahrungen in der Entwicklung und Implementierung verhältnisbezogener Maßnahmen zur Adipositasprävention. Kinder- und Jugendmedizin 2019; 19(1): 30-40; doi: 10.1055/a-0809-3656.
- Latawitz T. et al. (2019): Stadtteildeprivation und Lebensmittelumwelt: Zusammenhänge von sozialen und baulichen Merkmalen der Wohnumgebung und Lebensmittelverfügbarkeit. Gesundheitswesen 2019;81(05):405-412 doi: 10.1055/a-0602-4382.
- Kaiser R. et al.(2018): SpielRaum in der Stadt. Bewegung und Raum im Sportunterricht in der Grundschule. Transforming Cities 3: 50-53.
- Igel U. et al. (2017): Challenges in doing multi-disciplinary health promotion research in Germany. Health Promotion International doi: 10.1093/heapro/dax054.
- Igel U. et al. (2016): Community-based health promotion for prevention of childhood obesity. Study design of a project in Leipzig-Grünau. Ernährungs Umschau 63 (1): 8-15; doi: 10.4455/eu.2016.00.
- Gausche R. et al. (2014): Stadtteilbezogene Gesundheitsförderung zur Reduktion der Adipositasprävalenz bei Kindern und Jugendlichen. Adipositas – Ursachen, Folgeerkrankungen, Therapie 8, 18-24.



Photos of the closing exhibition in the district 2019

Thank you for your
attention!