

Interventions in outdoor play areas of Kindergarten and effects on usage patterns and PA of girls and boys

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Overview

1. Introduction
2. Methods
3. Results
4. Discussion

1 Introduction

Physical activity of girls and boys in outdoor play areas of Kindergarten

Physical activity and motor development

Fjortoft & Sagele 2000; Boldemann et al. 2006

Play & activity patterns

Luchs & Fikus 2013; Lucas & Dymont 2010; Ozdemir & Yilmaz 2008;

Parks

Whooley & Lowe 2013; Dymont & Connell 2013;

Methods

Luchs & Fikus 2013; Frost 1992, Sallis et al 2009; Meland, Kaltvedt & Reikeras 2015

Physical activity of preschool children

» 85% of waking time sedentary

Happy study 2010 (AUS)

» Less than 50% reach recommendations

Tucker 2008; Nicaise et al. 2011; Tudor & Locke 2011; Active Healthy Kids Can 2013

» Gender differences in PA

Karsten 2003; Prince et al. 2013

Project „KinderGärten“

Project partner

University of Vienna, Austria

Diketmüller R., Mairinger F., Lischka J. & Spörl S.

TILIA – Landscape Planning, Vienna, Austria

Studer H., Mairhofer R. & Gungl B.



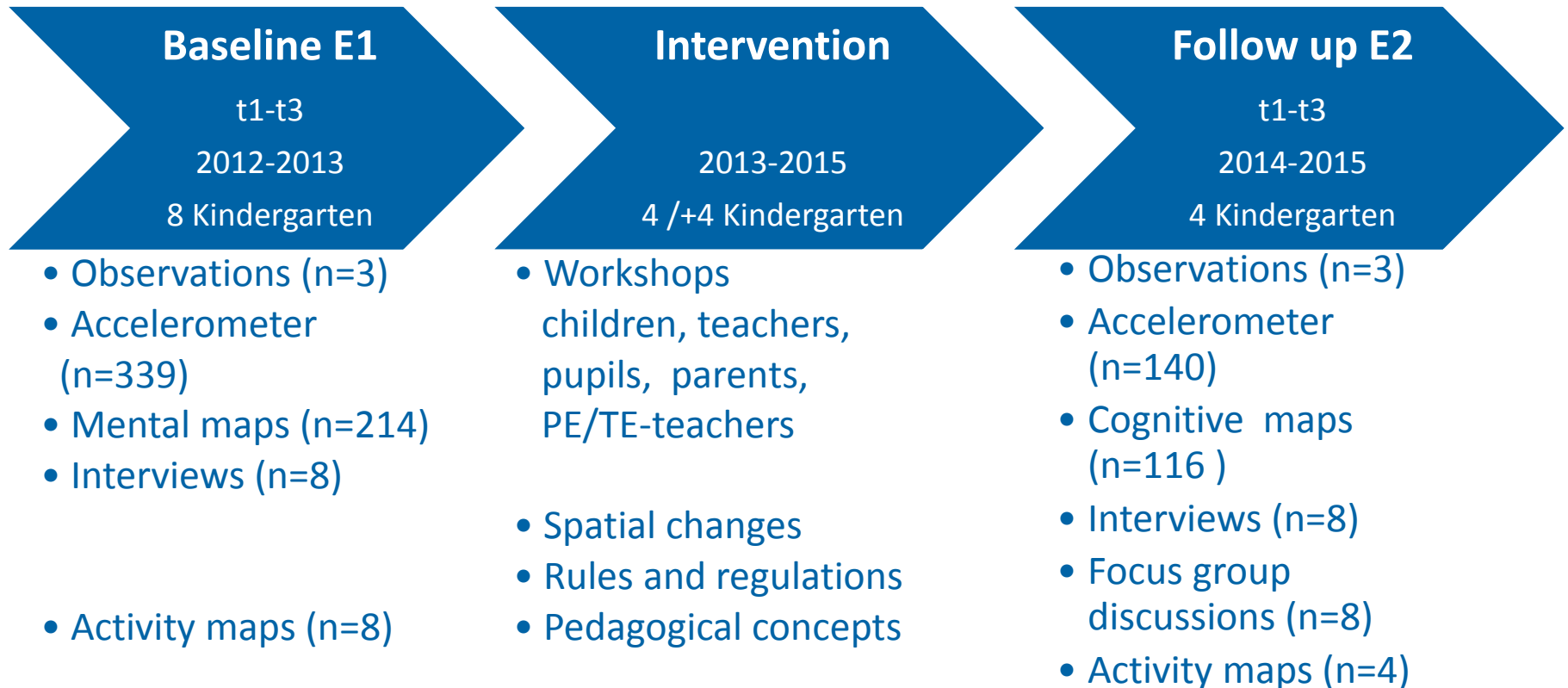
Analysis of

- Behavior of girls and boys in unstructured outdoor play periods in KG,
- Physical activity (amount, intensity)
- Influencing factors
 - sex, age, migration background/SES, BMI of children
 - Practices and attitudes of kindergarten teachers
 - environmental aspects

Diketmüller & Studer, 2012

2 Methods

Project design



Analysis

Observations, interviews

- qualitative content analysis
- Maps of activities

Types of activities

Girls

Boys

Girls & boys tog.

Girls & boys
besides



Tätigkeiten der Kinder



Schaukeln



Rutschen



Klettern



Wippen, Wipptiere



Ball spielen (allgemein)



Fußball spielen



Fahren mit Roller, Dreirad, Gocart, Laufrad etc.



Autoreifen, Kunststoffteile herumrollen, -tragen, -schieben



Seilspringen, Seil drehen



Spielen mit Bewegungsgeräten (Stelzen, Pedalo,...)



Balancieren



Springen, (Tempel-)hüpfen, Ball hüpfen



Turnen



Gehen



Laufen, nachlaufen, Wettlauf



Rollen, kullern, kugeln



Krabbeln, robben



Tanzen



Versteckenspiel



Essen, Trinken



Bauen mit Autoreifen, Kunststoff-/Holzteilen



Graben, baggern, Sand spielen



Backen, kochen



Blätter sammeln, Gras zupfen, Insekten sammeln/beobachten



Pritscheln



Mit Holzsteckerl oder Ast spielen



Malen



Beobachten, zuschauen



Diskutieren, reden, verhandeln



Singen



Weinen, schmollen



Sitzen, (plaudern)



Rangeln, (um-)stoßen, Kräfte messen



Händchen halten, umarmen, Bussi geben



Aufhalten, „Maut“



Puppenspiel



Kehren, rechen



Scheibtruhe, Einkaufswagenl schieben/ziehen



Rollenspiel allgemein

Analysis

Observations, interviews

- qualitative content analysis
- Maps of activities

Accelerometer

- Statistics

Cognitive Maps / Drawings of children

- Content analysis

Triangulation

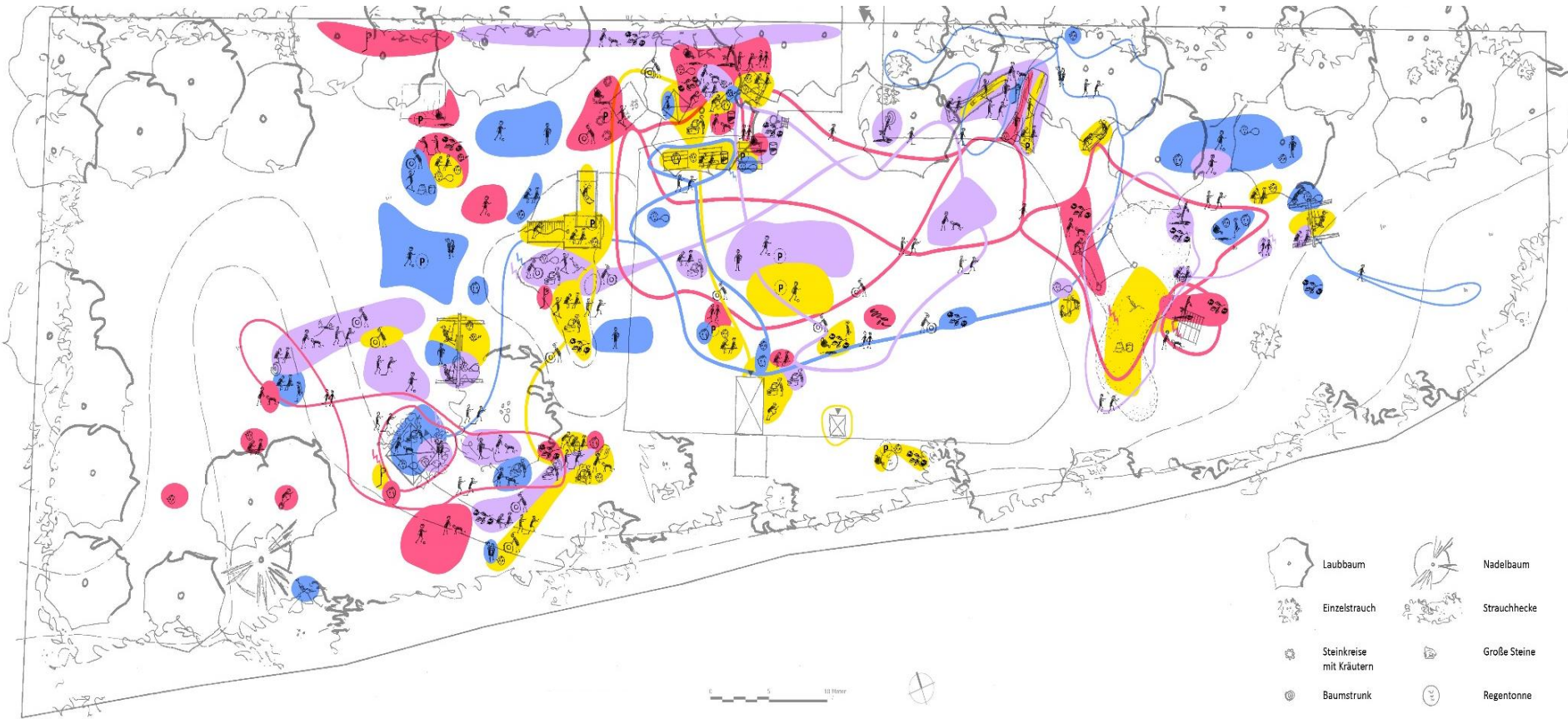
- methods, results
 - **Maps of activities**
 - **Case analysis**

3 Results

Example 1: Kindergarten 1

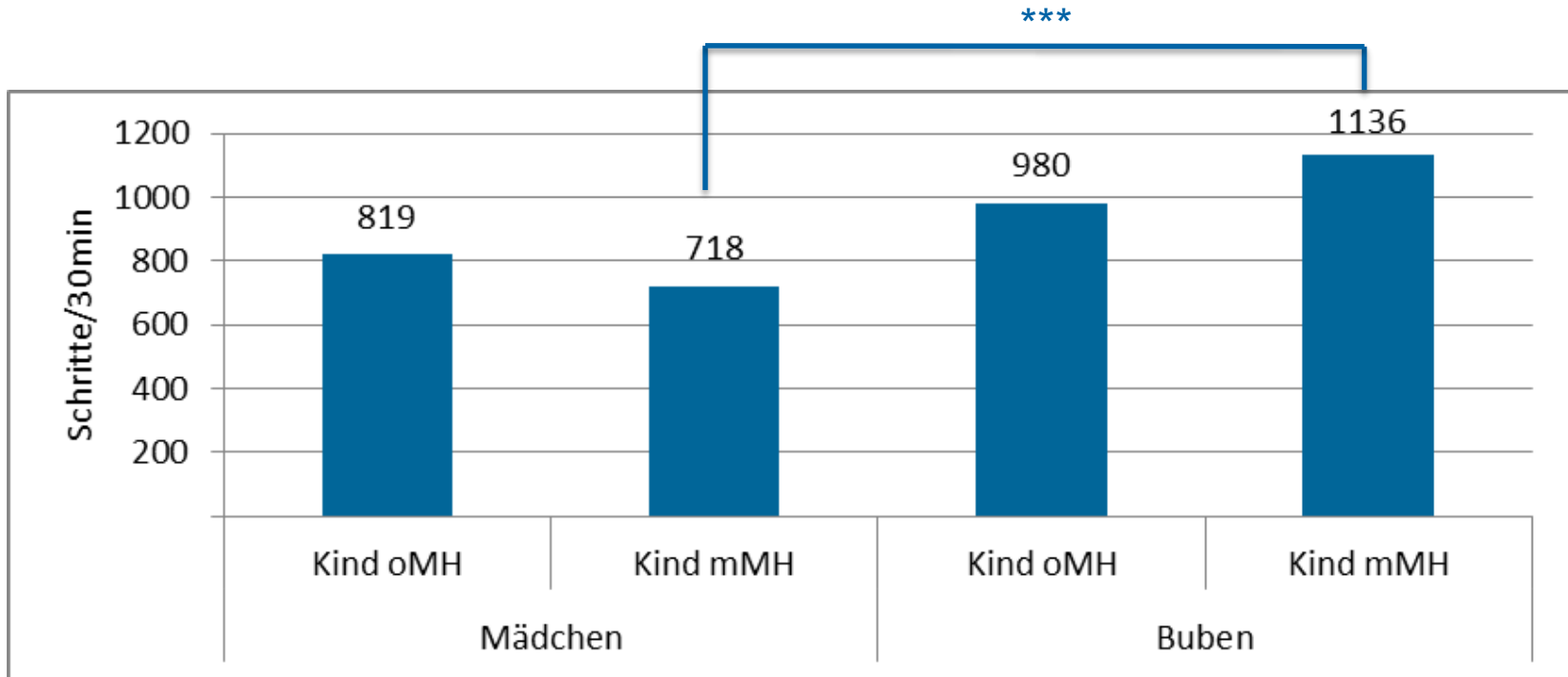
Spatial & pedagogical interventions

KG1: E1 (t1-t3) Map of activities



Areas & types of activities of
girls, boys, girls & boys, girls & boys besides/not together

KG1: E1 (t1-t3) PA-amount



KG1: Intervention

Changes in regulations

- Less interdictions
- explicit permission to play behind hills, bushes
- responsibility of pedagogues for all children
- No group-specific space use

Spatial changes

- Prunings
- Removal of old hut (conflicts)

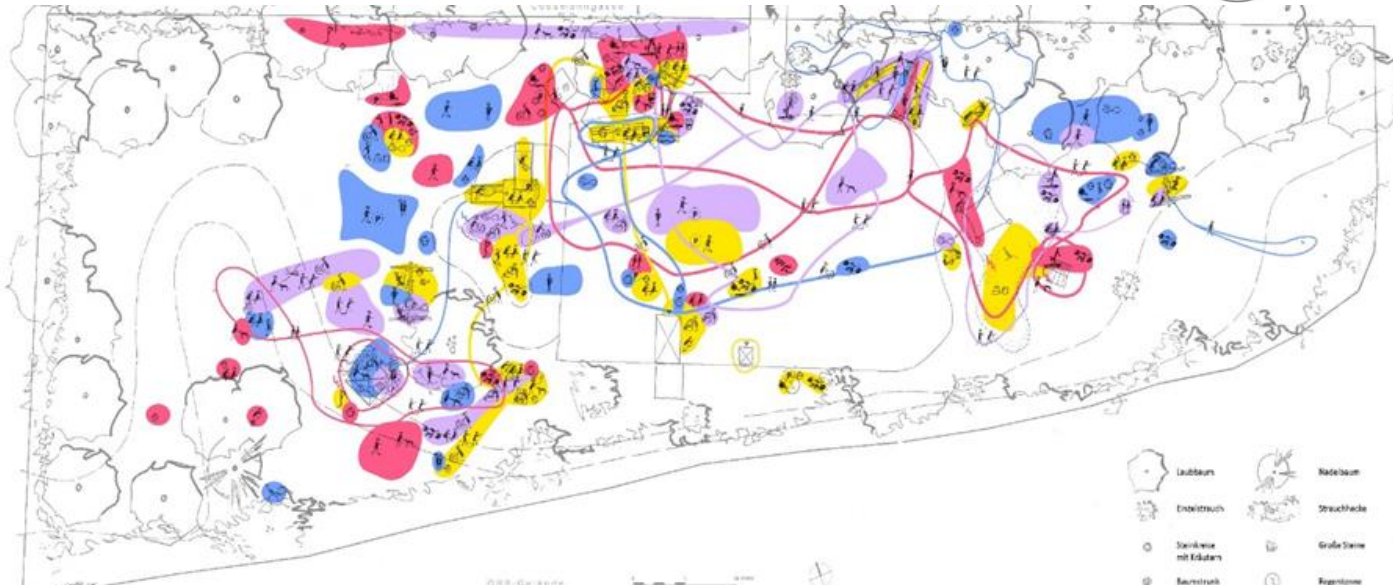
PA promotion for *all* children

- Group activities

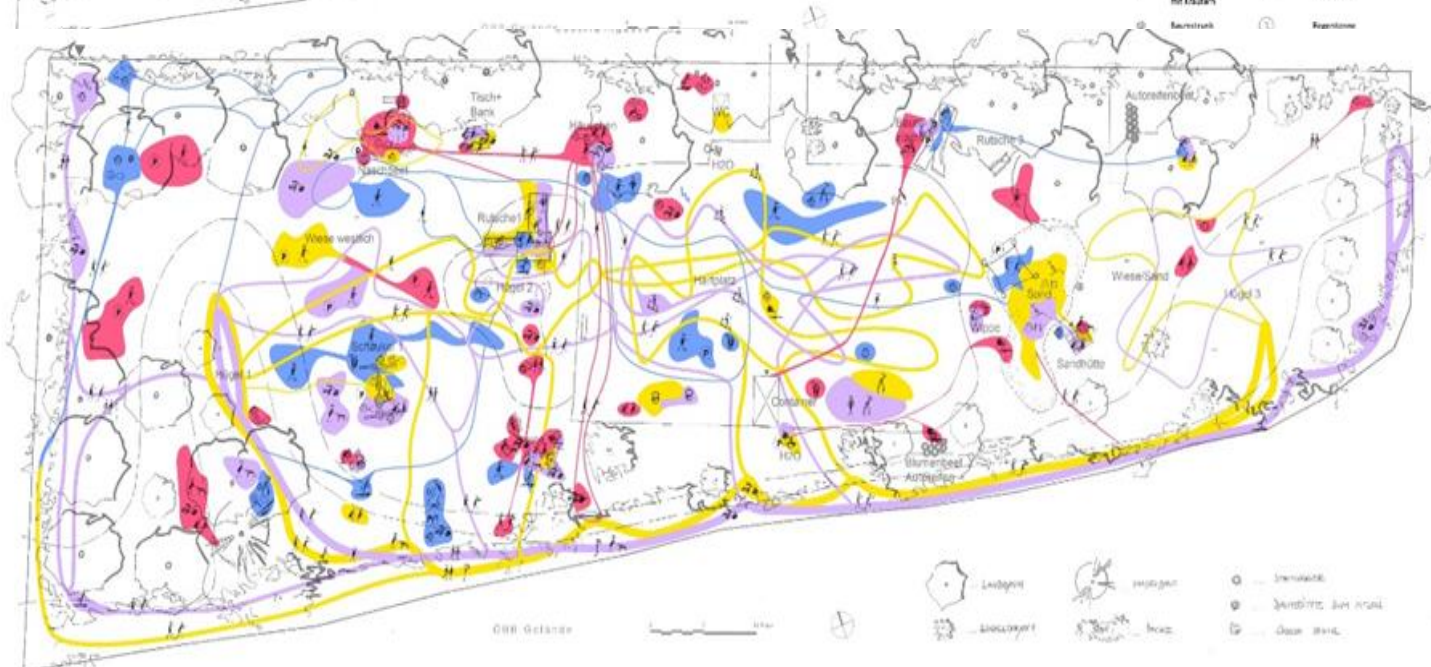
KG1: E1-E2 (t1-t3) Map of activities



E1

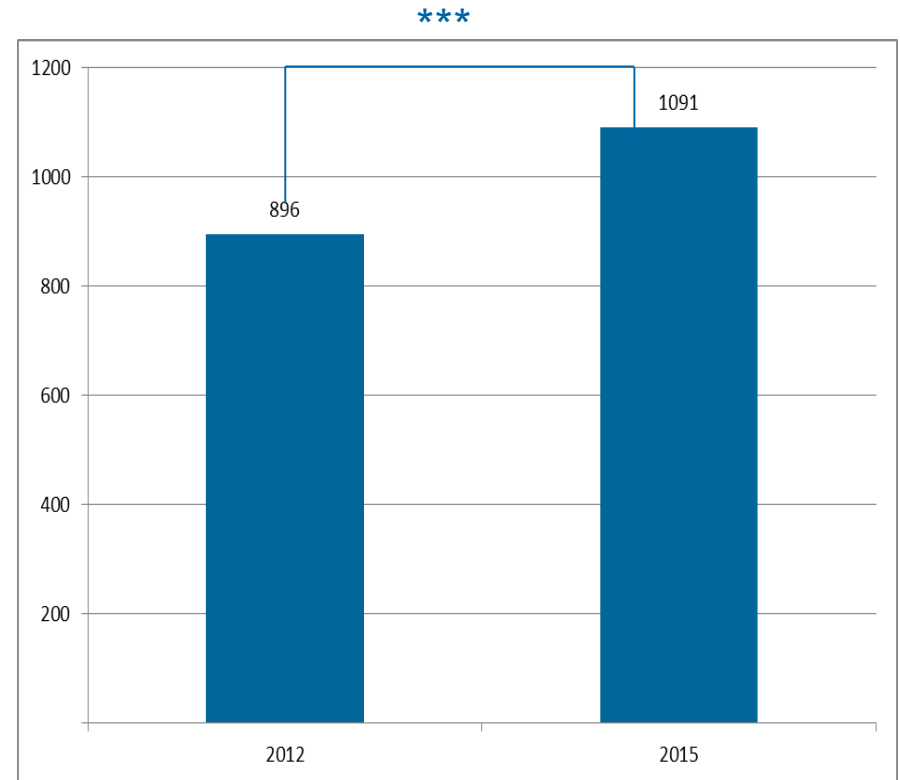
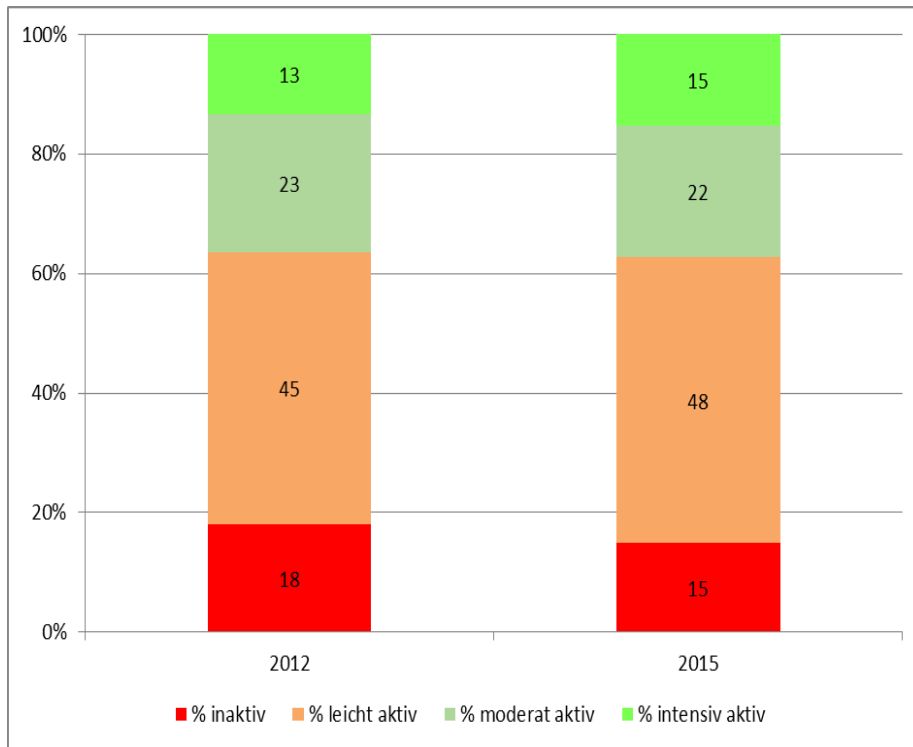


E2

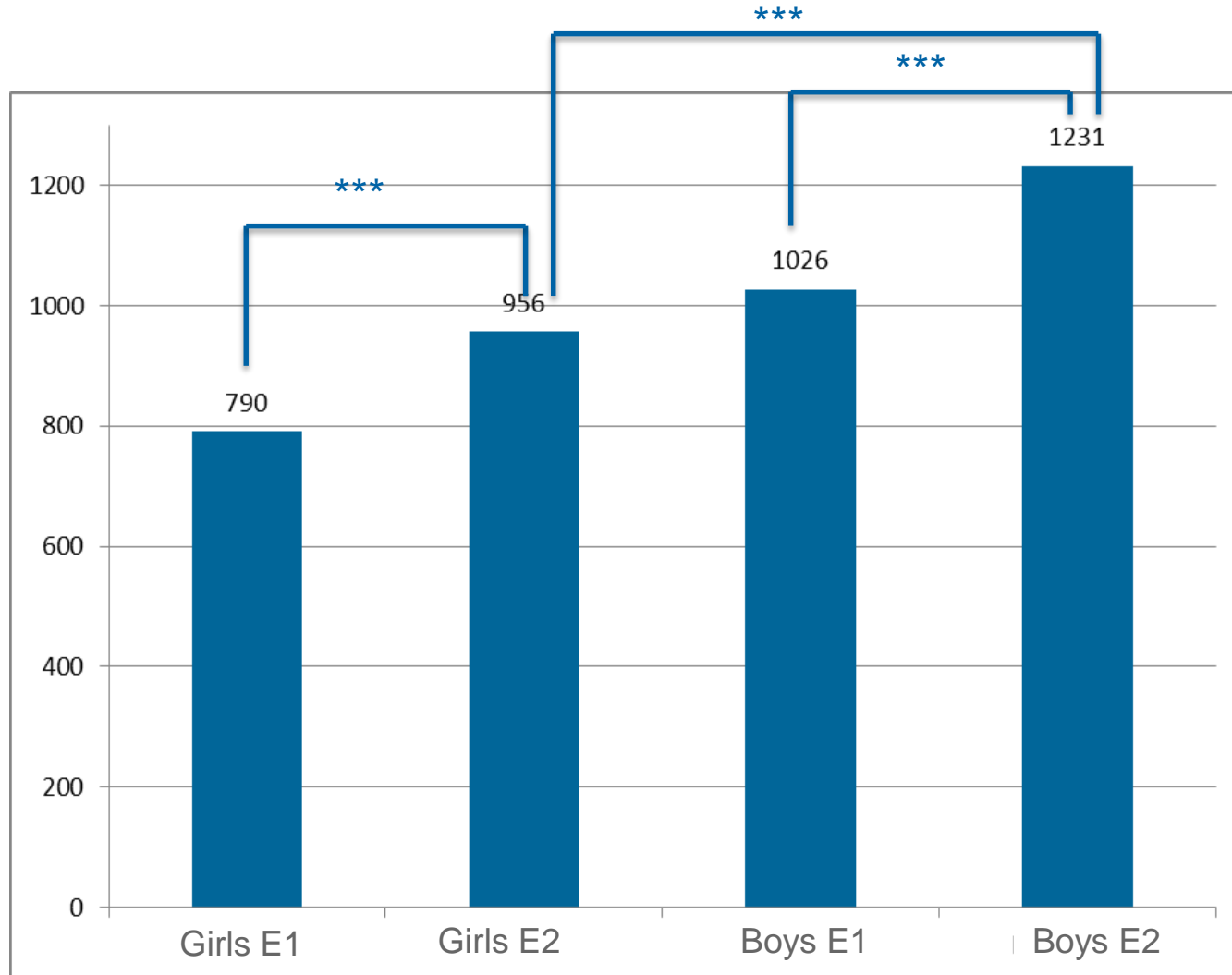


KG1: E1-E2

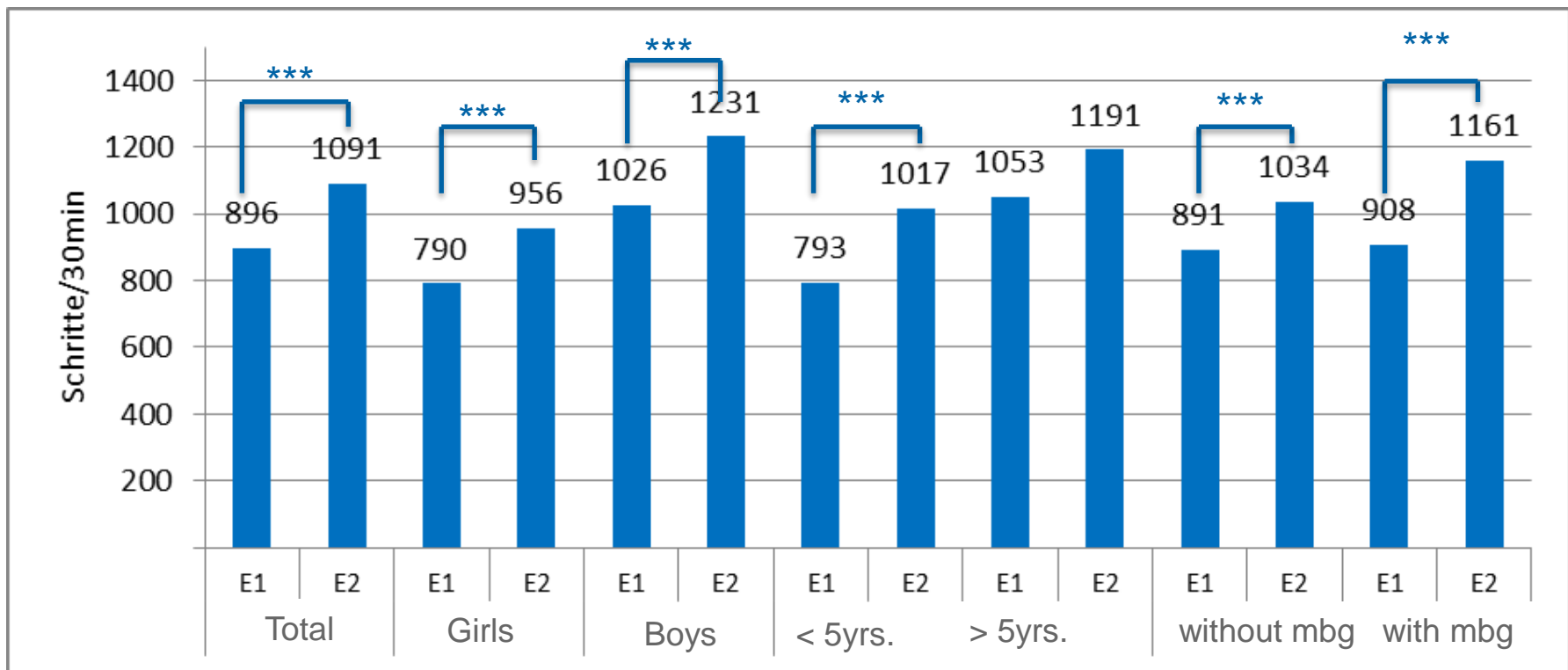
PA-levels; PA-amount (steps/30mins)



KG1: E1-E2 PA-amount: girls - boys



KG1: E1-E2 PA-amount: gender, age, migrant background



Example 2: Kindergarten 7

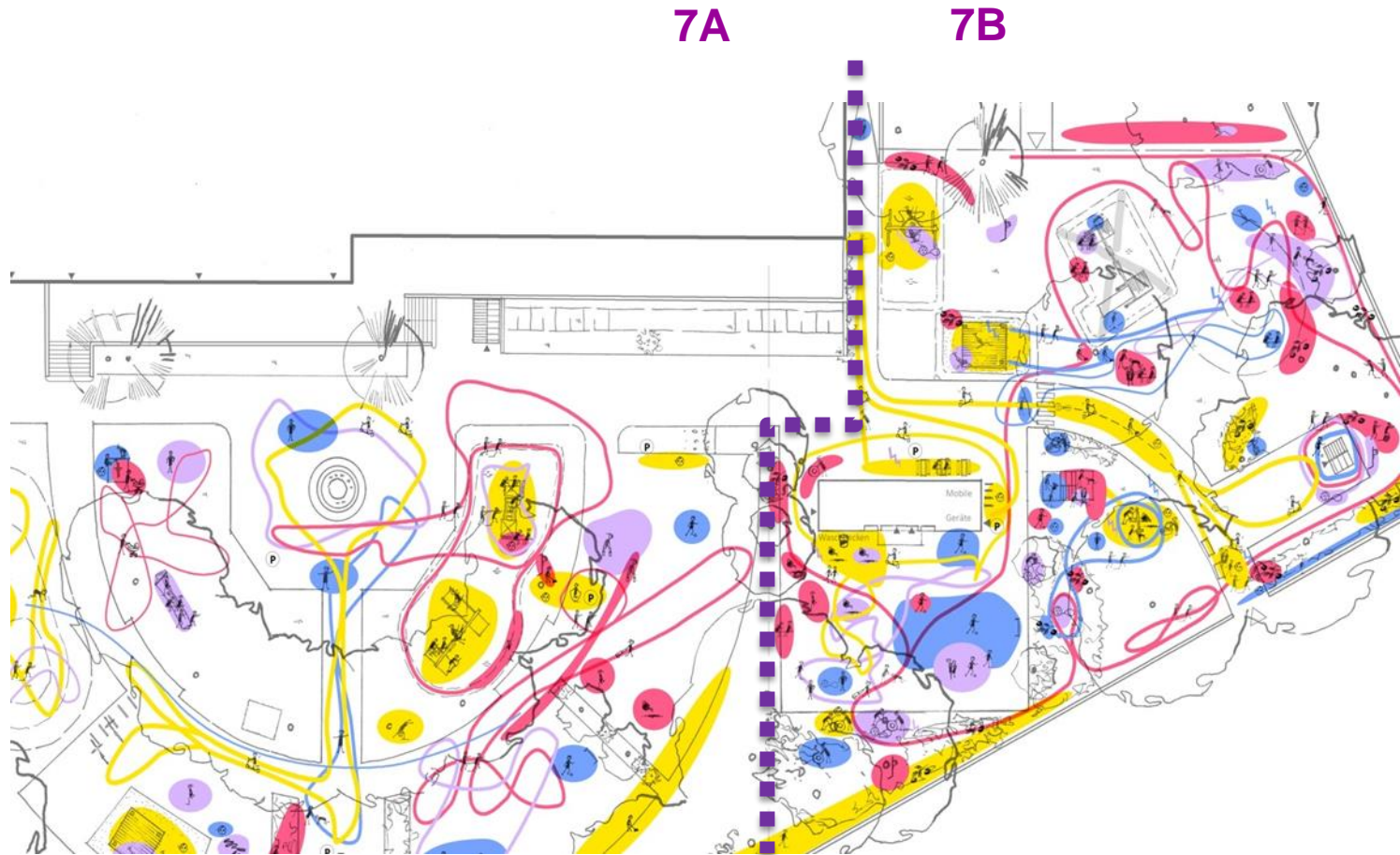
Spatial and organizational interventions



KG7A/B: E1 (t1-t3) Map of activities

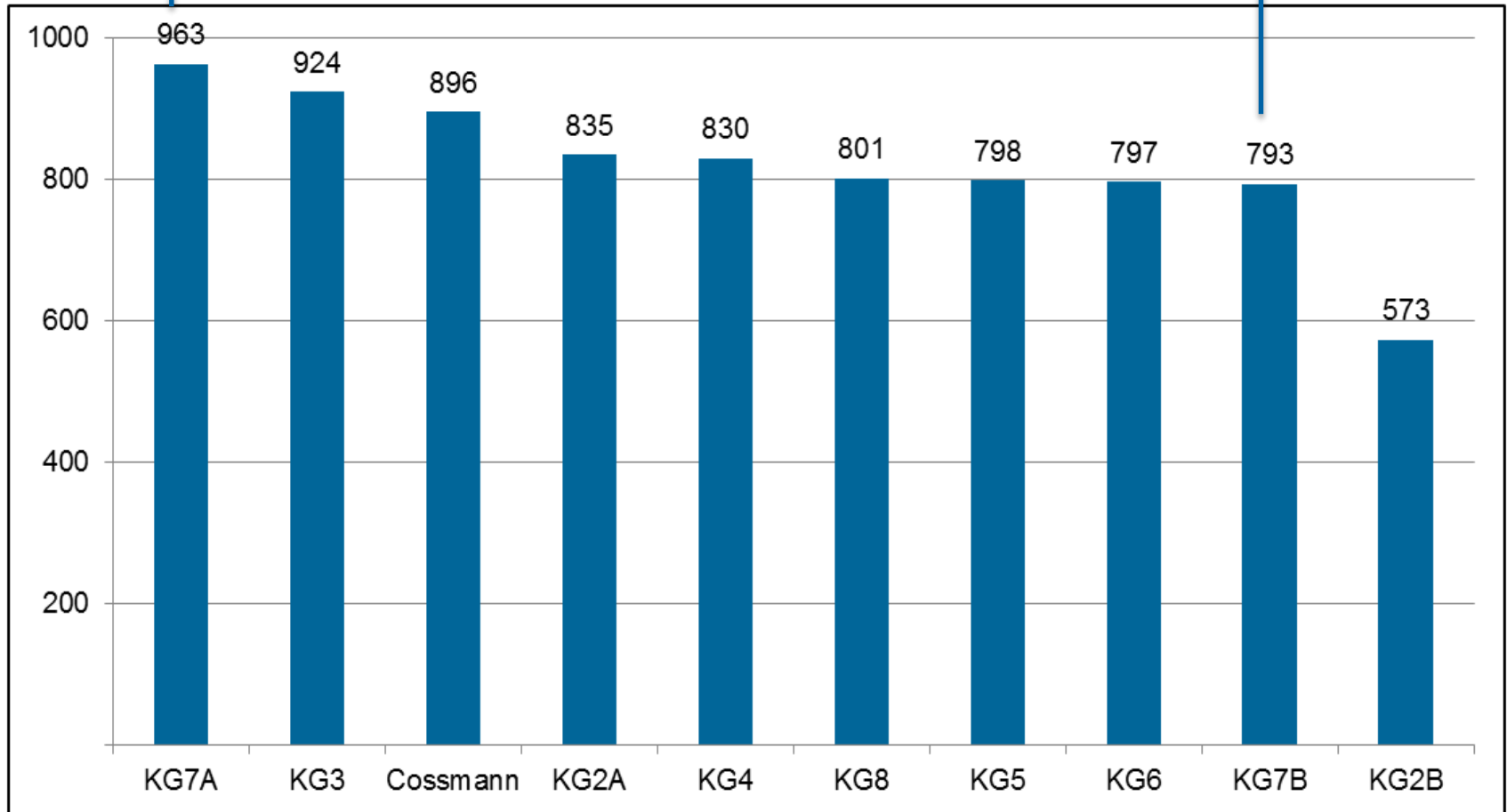


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Areas & types of activity of
girls, boys, girls & boys, girls & boys besides/not together

KG7A,B: E1 (t1-t3) PA-amount



Changes in regulations

- no group-specific space use
- responsibility of pedagogues for all children (indoor and outdoor)
- Active pedagogues (instead of fixed/stationary supervision)

Spatial changes

- Markings
- Renovation of climbing frame and swings

PA promotion for *all* children

- Group activities

KG7: E1-E2 (t1-t3) Map of activities



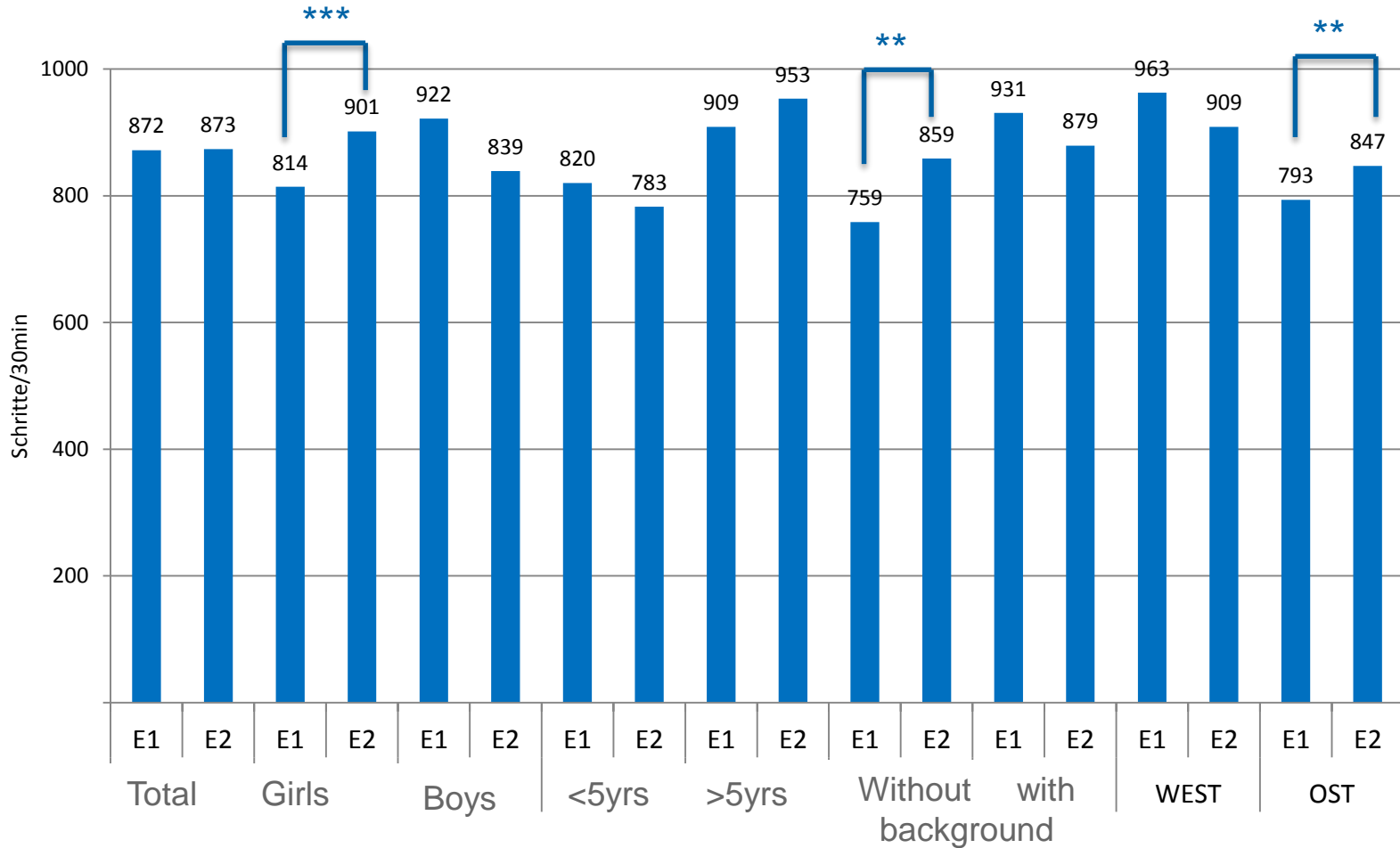
E1



E2



KG7: E1-E2 PA-amount: girls - boys



E1: $n=41$ (Ges), $n=19$ (M), $n=22$ (B), $n=17$ (< 5J), $n=24$ (ab 5J), $n=14$ (oMH), $n=27$ (mMH), $n=19$ (W), $n=22$ (O);
 E2: $n=47$ (Ges), $n=26$ (M), $n=21$ (B), $n=22$ (< 5J), $n=25$ (ab 5J), $n=13$ (oMH), $n=34$ (mMH), $n=20$ (W), $n=27$ (O);

4 Discussion

Spatial interventions

- Markings structure activities and calm conflicts
- Access to the whole space/garden (edges of garden) increases the amount of PA
- Larger spaces & sufficient spatial facilities promote prolonged intense games

Pedagogical/organizational interventions

- Open concepts instead of group-orientation increase stay in different parts of garden and promotes variety of activities
- Active and non-stationary supervision of kindergarten-teachers

- **Initiatives and strategies to achieve ntl. guidelines for daily PA**
- **Focus on less active groups**
 - girls with migrant background
 - children & low SES
- **Intersectional approaches**

Van Cauwenberghe, De Craemer et al 2013; Van Cauwenberghe, Labarque et al 2012
- **Kindergarten-teachers/-pedagogues – important role models**

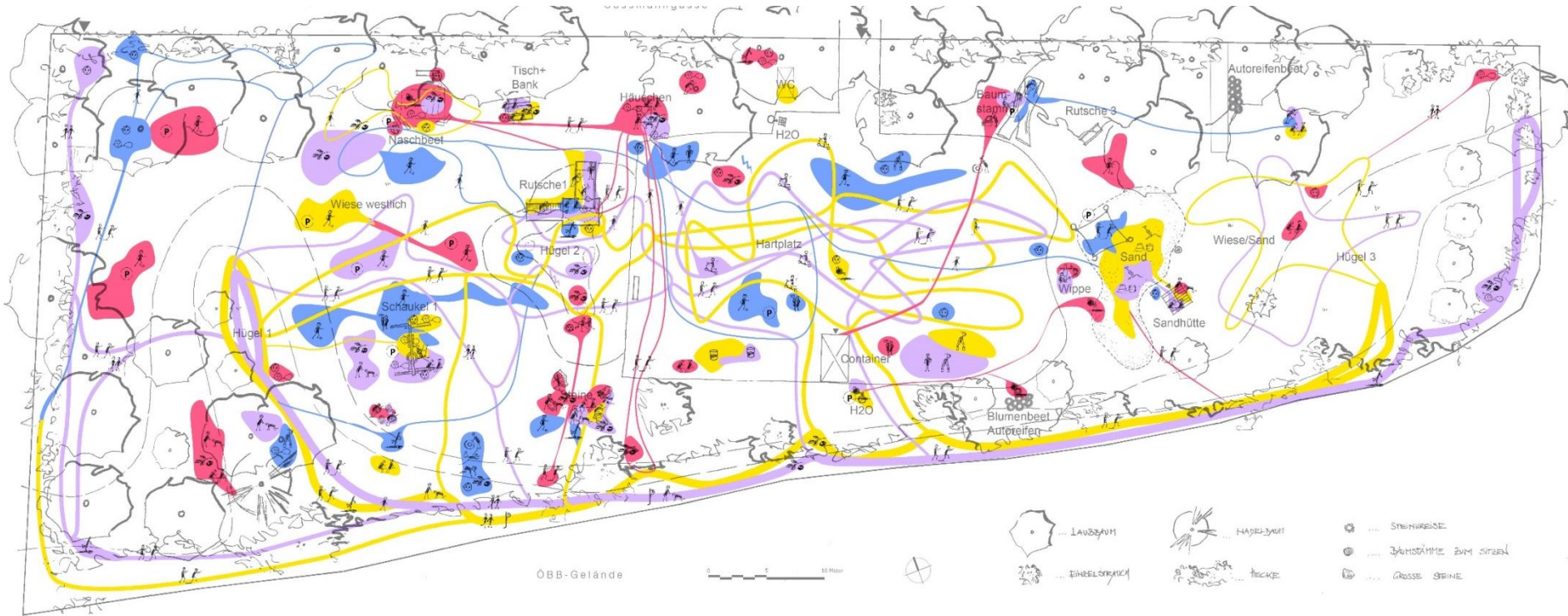


Thank you very much for your attention

<http://kindergarten.univie.ac.at>



KG1: E2 (t1-t3) Map of activities



Intervention (2013/14 - 2015)

Workshops KG1 - KG8

discussion of the results, change requests/discussions

Changes

Spaces: facilities, equipment, access, arrangement

Organization: rules, daily routines,

Pedagogical concepts & measures, supervision

Sensitization / Dissemination

- Workshops with pupils (n=76) and their supervisors (n=70)
- Workshops with kindergarten teachers
- Exchange with inspectors/ supervisors in the states
- Further Education for BAKIP-teachers