

# Environmental correlates of physical activity among children aged 11 to 13 years in Wallonia (Belgium)

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# Background

- **WHO recommendations for young people aged 5 to 17 years**
  - Moderate to vigorous physical activity (MVPA): at least 60 minutes per day each day
  - Vigorous physical activity (VPA): at least three times a week
- **Many studies have shown that**
  - Practice of a regular physical activity is insufficient in the adolescent population
  - Level of physical activity (PA) of children decreases with age during the adolescence
- **Up to now, most studies have focused mainly on individual and social factors**
- **In recent years, interest in environmental factors is growing; level of evidence is still moderate**

# Objective

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**To analyze the association**

- between the characteristics of the living environment**
- and the level of physical activity**

**among children aged 11 to 13 years in Wallonia**

# Methodology (1)

- **Sample**

- 2014 HBSC study in French-speaking Belgium  $\Rightarrow$  14,122 youth (168 schools)
- 5th-6th grades from Walloon elementary schools  $\Rightarrow$  1,940 children (77 schools)



- **Measures**

Two outcomes	Four perceived environmental factors
<ul style="list-style-type: none"> <li>* <b>Vigorous physical activity (VPA) at least twice a week</b></li> <li>* <b>Global physical activity according to the recommendations<sup>1</sup></b></li> </ul>	<ul style="list-style-type: none"> <li>* Safe neighborhood for playing or walking alone</li> <li>* Other children in the neighborhood to go out to play</li> <li>* Garden/yard at home to go out to play</li> <li>* Playground/park in the neighborhood to play</li> </ul>

<sup>1</sup>A recommended level of physical activity is the daily practice of a MVPA of at least 60 minutes combined with a VPA at least twice a week

# Methodology (2)

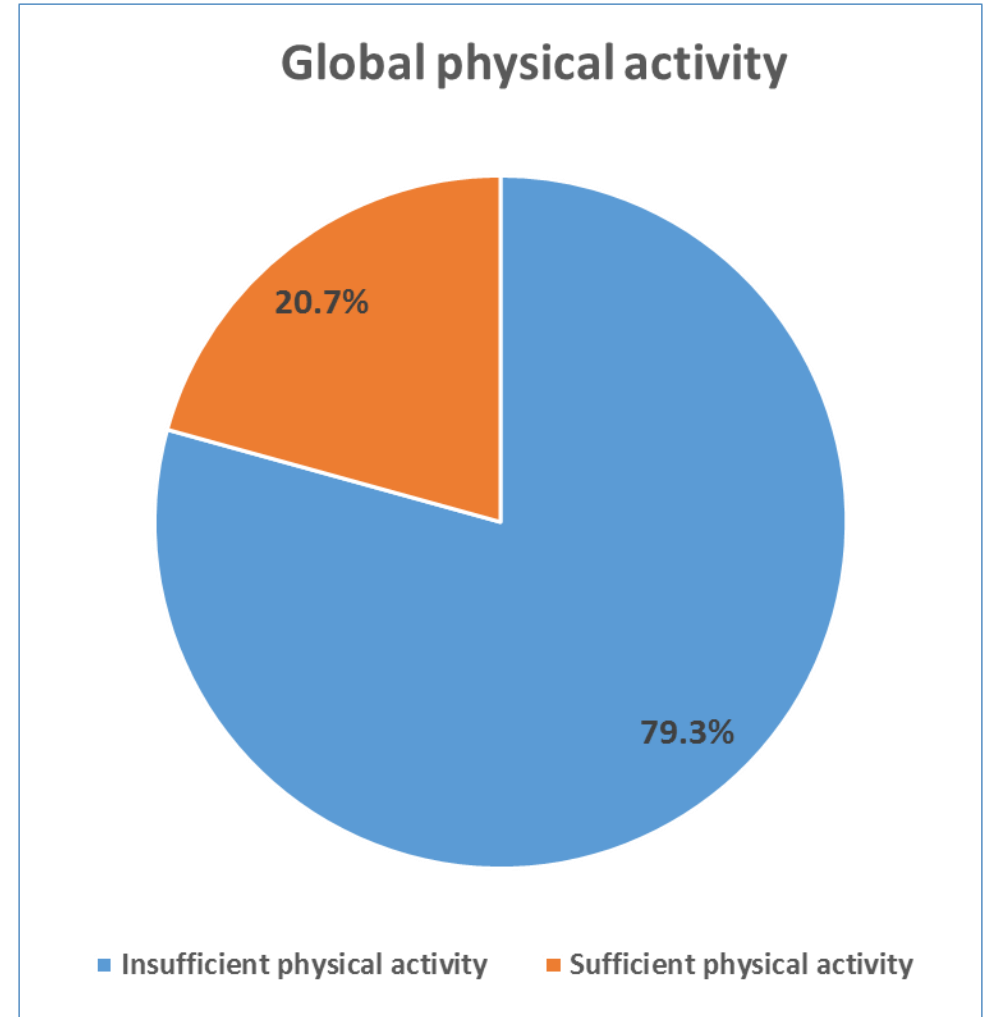
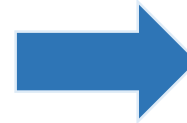
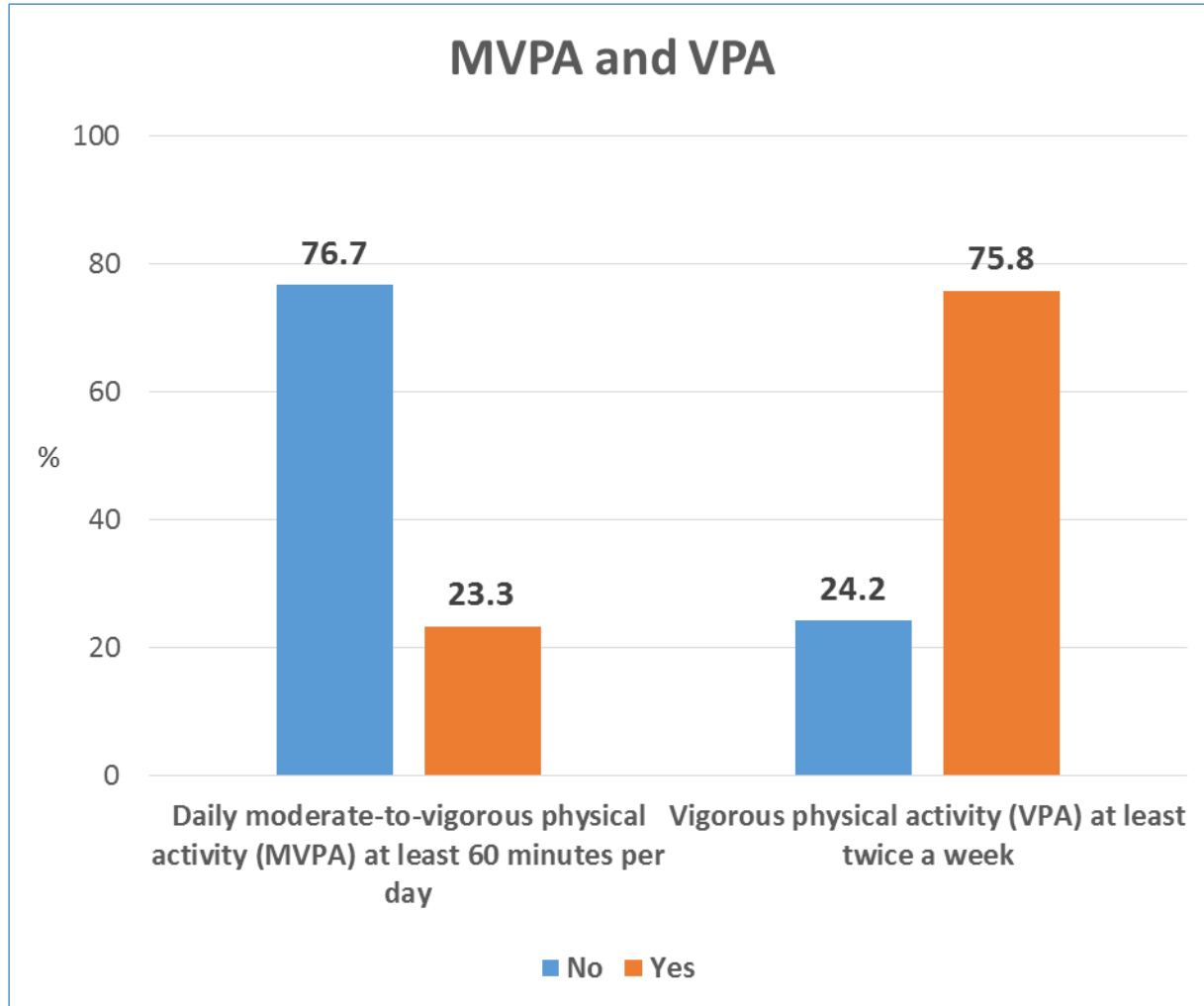
- **Covariates**

Gender, age, family structure, family affluence scale, size of the area where the school is located, migratory status

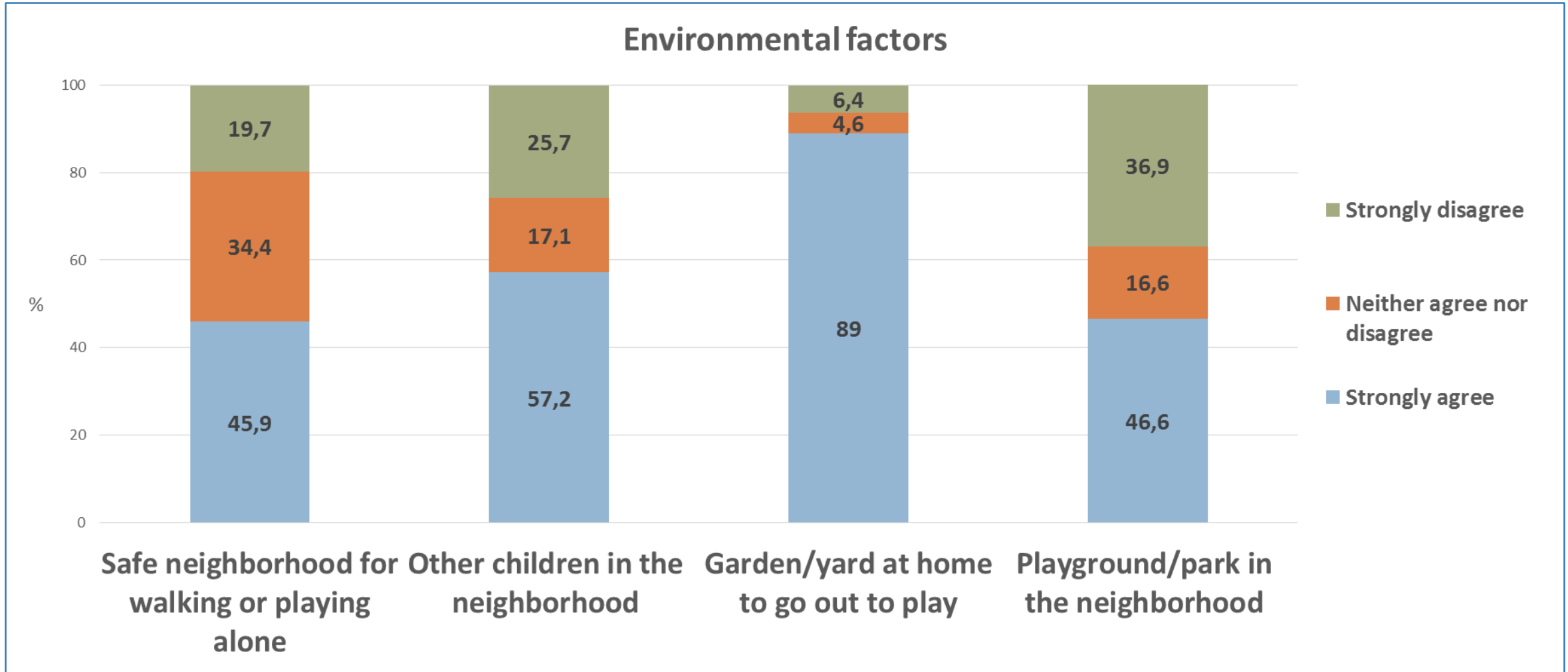
- **Statistical analyses**

- Univariate analyses (Pearson's Chi-squared test, OR with 95%CI)
- Logistic regression models adjusted for potential confounders
- Interaction with gender was also tested
- All analyses were performed using Stata<sup>®</sup>14

# Results (1)



# Results (2)



# Results (3) : Logistic regression

## Factors associated with the practice of a recommended level of overall physical activity<sup>1</sup>



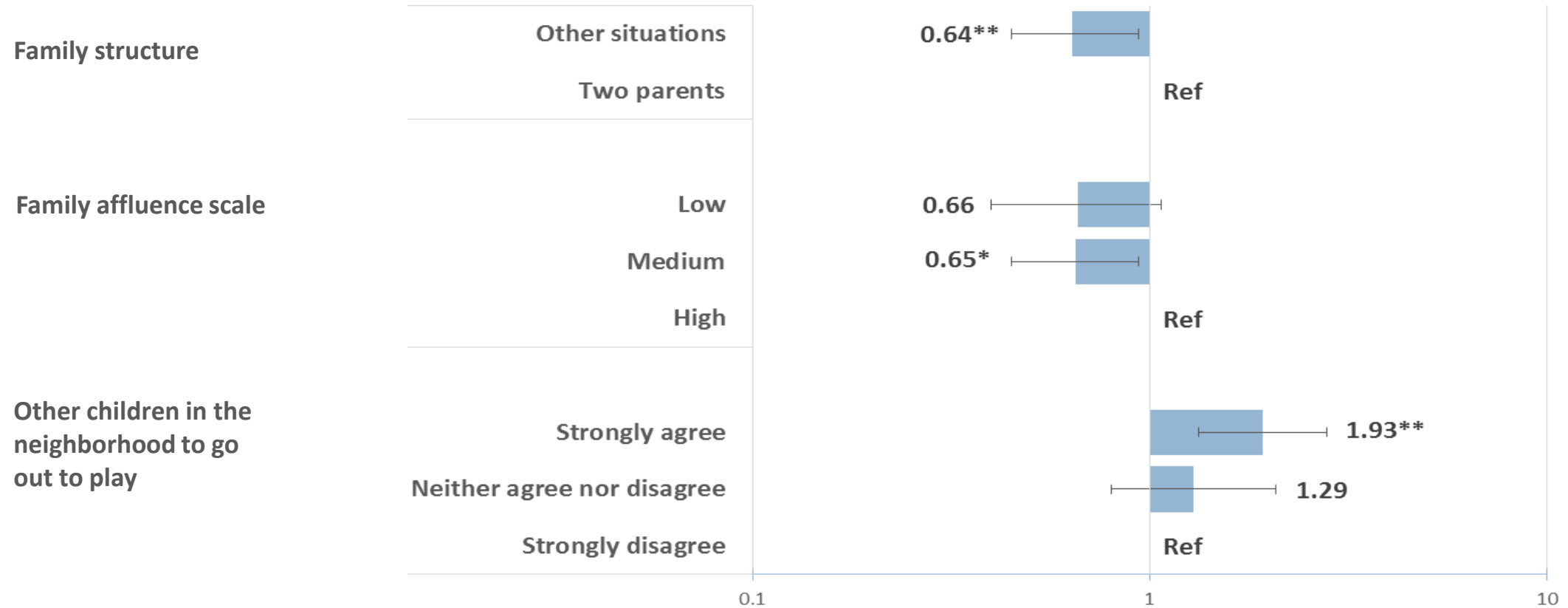
\*p<0.05 \*\*p<0.01 \*\*\*p<0.001

<sup>1</sup>A recommended level of physical activity is the daily practice of a MVPA of at least 60 minutes combined with a VPA at least twice a week.



# Results (4) : Logistic regression

Factors associated with the practice of a recommended level of a vigorous physical activity (VPA)<sup>1</sup> among boys

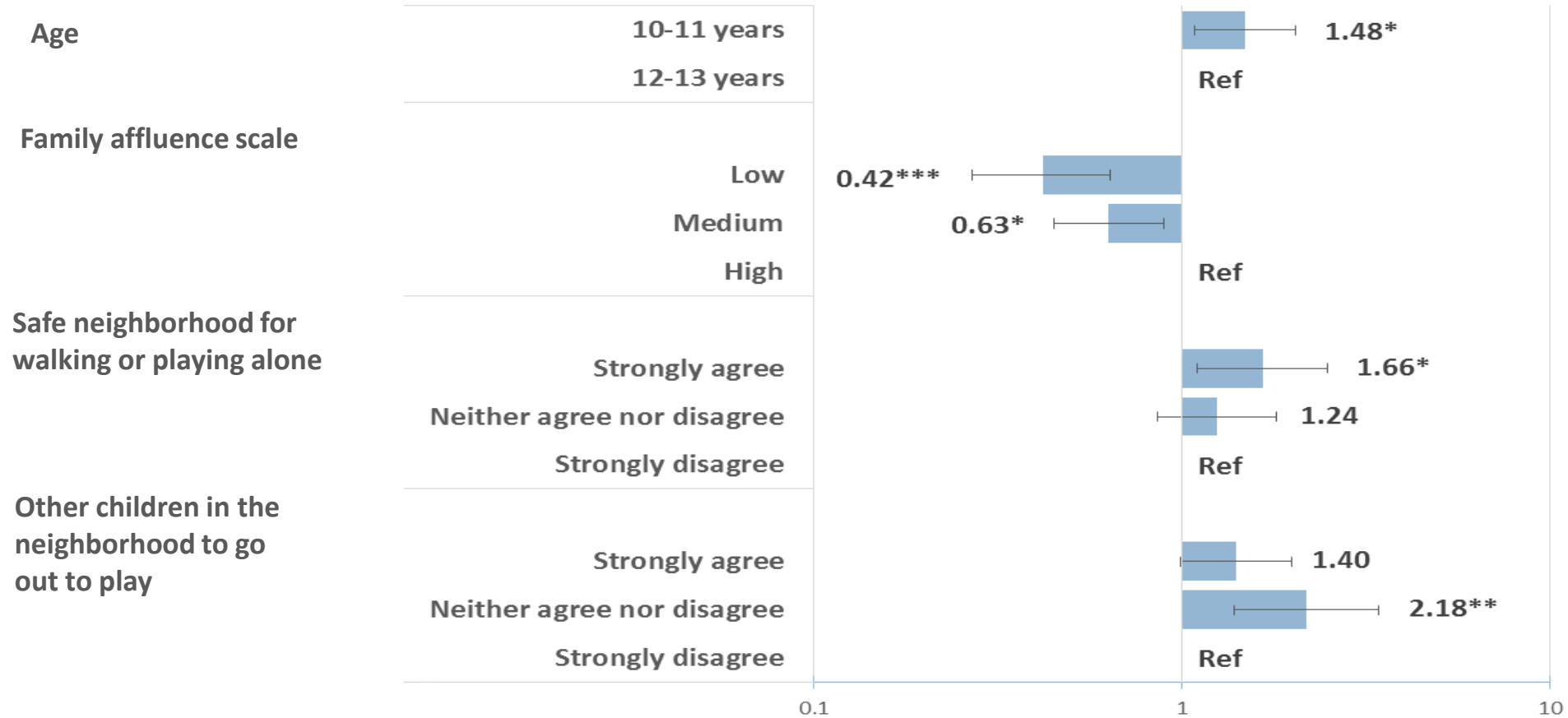


\*p<0.05 \*\*p<0.01 \*\*\*p<0.001

<sup>1</sup>A recommended level of vigorous physical activity is the practice of a VPA at least twice a week.

# Results (5) : Logistic regression

Factors associated with the practice of a recommended level of a vigorous physical activity (VPA)<sup>1</sup> among girls



\*p<0.05 \*\*p<0.01 \*\*\*p<0.001

<sup>1</sup>A recommended level of vigorous physical activity is the practice of a VPA at least twice a week.

# Strengths & limitations

Strengths	Limitations
<ul style="list-style-type: none"><li>• Indicators related to the living environment of children used for this study have been rarely studied</li><li>• Randomized sample and its relatively large size</li></ul>	<ul style="list-style-type: none"><li>• Self-reported data; no objective measure</li><li>• Modality of response "neither agree nor disagree" for the environmental factors</li><li>• Seasonal variations</li><li>• Cross-sectional study</li></ul>

# Discussion

Our results	Literature
<p><b>Presence of a playground or a park in the neighborhood</b> Positive association VPA among girls and overall PA</p>	<ul style="list-style-type: none"> <li>• Consistent with the literature</li> <li>• Review : In most studies, playgrounds and parks were positively associated with children’s PA (Oliveira et al, 2014)</li> </ul>
<p><b>Perceived security in the neighborhood</b> Positive association with VPA among girls</p>	<ul style="list-style-type: none"> <li>• Frequently studied =&gt; Often positively associated with PA of children and adolescents (Carver et al, 2008)</li> <li>• Girls are more concerned about safety (Gomez et al, 2004)</li> </ul>
<p><b>Presence of other children in the neighborhood with whom to play</b> Positive association with VPA and overall PA</p> <p><b>Presence of a garden or a yard at home</b> No association found</p>	<ul style="list-style-type: none"> <li>• Expositions under-researched</li> <li>• =&gt;Further research needed</li> </ul>

# Conclusion

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- Perception of environment in which children live is likely to play an important role on their level of physical activity
- Our results argue for developing actions to help create living environments more favorable to the daily PA of children
- Further studies are needed to improve the level of evidence available and to identify interventions that would be the most effective to halt the decline in PA