

# Children research

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## Contents

Introduction .....	3
Research 1.....	4
Introduction .....	4
Literature review.....	4
Interests of children aged 6 through 8 years.....	4
Interest of children ages 9 through 12 years.....	4
Conclusion.....	5
How can this knowledge inform the design of technological innovations to encourage outdoor play? .....	5
What are the preferences and dislikes of children (ages 6-12) regarding playground games? .....	7
Resources .....	9

## Introduction

In this document we would like to research the preferences of the children in our target audience (6-12 years). Our main research question is:

**What are the preferred play activities and engagement patterns of children in the target age group within the context of Schoolplein14, and how can this knowledge inform the design of technological innovations to encourage outdoor play?**

We are splitting this research into two parts; one part is a more general research into the preferences of children, the research question for the first part is:

What are the general preferences of children (ages 6-12) in terms of trends, toys, and activities?

The second part is focussed on the playground and playground games, the research questions for the second part is:

What are the preferences and dislikes of children (ages 6-12) regarding playground games?

(How do children aged 6-12 experience and engage with nature and the environment during school recess, and what are the benefits of outdoor play for children's physical, social, and emotional development?)

# Research 1

## Introduction

The main goal of this research is to find out what kids between the ages of 6 and 12 generally like. We want to understand their preferences when it comes to things like trends, toys, and activities. By learning about what they enjoy the most, we can create things that make them happy and keep them engaged. This research will help us discover the important trends and preferences that influence what kids in this age group like. Ultimately, we want to use this knowledge to design exciting experiences that they will love.

## Literature review

I've found an online article (*Basic Abilities and Play Preferences: Birth to Age 12 - the Natural Child Project*, n.d.) that describes the interests of children divided into different age groups. They divide the groups from birth through 3 months, 4 through 7 months, 8 through 11 months, 12 through 18 months, 19 through 23 months, 2 years, 3 years, 4 through 5 years, 6 through 8 years and finally 9 through 12 years. These last two groups are interesting for us, so that's what we will be focussing on.

### Interests of children aged 6 through 8 years

During this stage, children in the age range of 6-8 continue to show a strong interest in physical play outdoors. They are motivated to enhance their physical skills and seek out more challenging activities. With increased strength and endurance, they engage in rough-and-tumble play and are more inclined towards risk-taking behaviours.

Their play becomes more structured, following either spontaneous or set rules, which can be quite complex. Popular outdoor games include hide and seek, tag, and various sports. These children often focus on developing specific skills and exhibit proficiency in activities that require dexterity, such as complex hand games, jacks, finger snapping, bow tying, model building, hand puppetry, needlepoint, sewing, weaving, and braiding.

They display improved fine motor skills and attention to detail, which contributes to a growing interest in collecting. Problem-solving becomes more logical as they start using reasoning to organize, solve problems, and make choices among different options. Additionally, their sense of humour develops, and they appreciate simple jokes and riddles.

During this period, licensed characters associated with action superheroes or friendship themes are particularly popular among this age group.

A few key points are (*Child Development: Middle Childhood (6-8 Years Old)* | CDC, 2021):

- Show more independence from parents and family.
- Start to think about the future.
- Understand more about his or her place in the world.
- Pay more attention to friendships and teamwork.
- Want to be liked and accepted by friends.

### Interest of children ages 9 through 12 years

During this stage, children continue to build upon the skills they developed during their early elementary years in various sports, games, and activities. However, they may find some of the games to be repetitive and unexciting. As a result, they seek out new activities that can challenge their advanced motor skills and thinking abilities.

Rather than being satisfied with finished products, they are drawn to raw materials that allow them to create their own unique creations. These children enjoy engaging in a wide range of activities that require a higher level of performance and precision. Examples include woodworking, manipulating marionettes, pottery making, staging plays, advanced science projects, and creating computer graphics.

At this stage, they thrive on activities that allow them to explore their creativity and express their individuality. They are motivated by the opportunity to refine their skills and take on more complex challenges. These activities provide them with a sense of accomplishment and satisfaction as they showcase their abilities in a more sophisticated manner.

A few key points are (*Child Development: Middle Childhood (9-11 Years Old)* | CDC, 2021):

- Start to form stronger, more complex friendships and peer relationships. It becomes more emotionally important to have friends, especially of the same sex.
- Experience more peer pressure.
- Become more aware of his or her body as puberty approaches. Body image and eating problems sometimes start around this age.

## Conclusion

In conclusion, children aged 6-8 years exhibit a strong interest in physical play and outdoor activities. They actively seek opportunities to enhance their physical skills, engage in structured play with complex rules, and develop specific dexterity-based abilities. Their attention to detail grows, leading to an interest in collecting, and they begin to employ logical reasoning to solve problems and make choices. Additionally, their sense of humour develops, and they appreciate simple jokes and riddles. During this stage, licensed characters associated with action superheroes or friendship themes are particularly popular.

On the other hand, children aged 9-12 years continue to build upon their skills and interests from earlier years. They seek out new activities that challenge their advanced motor skills and thinking abilities. Their preference shifts towards engaging in activities at a more complex and exacting level of performance. They find joy in creating their own unique products using raw materials, exploring their creativity, and expressing their individuality. They thrive on refining their skills and taking on more complex challenges. At this stage, they also experience a stronger desire for friendships and peer relationships, as well as heightened awareness of their bodies as puberty approaches.

Understanding these age-specific interests and developmental milestones is crucial in designing engaging experiences and products that cater to the evolving needs and preferences of children in the 6-12 age range. By aligning with their interests, we can create meaningful and enjoyable experiences that foster their growth, creativity, and social interactions.

## How can this knowledge inform the design of technological innovations to encourage outdoor play?

Understanding children's interests and developmental milestones in the 6-12 age range guides the design of technological innovations for outdoor play. By incorporating physical challenges, blending technology with nature, fostering creativity and customization, promoting social interaction, and considering age-appropriate content, we can create engaging experiences that encourage outdoor play and support children's physical, cognitive, and social development. These innovations have the potential to inspire children to connect with nature, be physically active, unleash their creativity, build friendships, and enjoy meaningful outdoor play experiences.

The new game should incorporate:

- Psychical challenges
  - Stimulate children's physical skills and provide opportunities for them to overcome obstacles.
- Stimulate fostering creativity and customization
  - Allows children to express their individuality and encourages their active participation in outdoor play.
- Elements need to be mixed through mixed reality or augmented reality
  - Create captivating and interactive experiences that inspire children to play and explore their surroundings.

## What are the preferences and dislikes of children (ages 6-12) regarding playground games?

### 1. Difference between likings & disliking's of the Dutch children:

A study by Van der Mars, Dierx, and Oudhof (1991) investigated the types of activities that Dutch children aged 6-12 preferred during school recess. *The study found that soccer was the most popular game among both boys and girls, followed by skipping rope and tag.* Additionally, the study found that children were more likely to participate in games that involved high levels of physical activity and social interaction, such as soccer and tag.

While this study provides insight into the play preferences of Dutch children during school recess, it is important to note that it is over 30 years old and may not reflect the current preferences and dislikes of Dutch children. Additional research is needed to better understand the play preferences of Dutch children aged 6-12 and to ensure that school playgrounds offer a range of activities that cater to the diverse interests and needs of all children, regardless of gender or ability.

### 2. Cultural differences or gender differences

A study by Verstraete, Cardon, De Clercq, and De Bourdeaudhuij (2006) investigated the physical activity levels and play preferences of Flemish (Belgian) children aged 6-12 during school recess. The study found that *boys were more physically active during recess than girls and were more likely to engage in team sports, such as soccer and basketball.* *Girls were more likely to engage in creative and social activities, such as drawing, reading, and talking with friends.*

While this study does not focus specifically on Dutch children, it provides insight into the play preferences of Flemish children, who share cultural similarities with the Dutch. It is possible that Dutch children's play preferences may be like those of Flemish children, given their shared cultural background and geographic proximity.

### 3. Examples of innovative school playground games involving technology for children aged 6-12

- **Geo-caching:** Geo-caching is a game that uses GPS technology to hide and find objects around the playground. Students can use a GPS-enabled device, such as a smartphone or tablet, to locate hidden objects or clues. This game not only encourages students to be active but also improves their problem-solving skills.
- **Augmented Reality Scavenger Hunt:** An augmented reality scavenger hunt uses a smartphone or tablet to overlay virtual images over the physical environment. Students can use the device to find virtual objects or clues that are hidden around the playground. This game is not only fun but also promotes the use of technology and encourages students to explore their surroundings.
- **Dance Dance Revolution:** Dance Dance Revolution is a video game that involves dancing on a platform in time with music. This game can be set up on a large screen in a designated area of the playground. Students can take turns playing the game, competing against each other, and improving their dance skills.

4. Engagement with nature and the environment during school recess in various ways
- Children aged 6-12 experience and engage with nature and the environment during school recess in various ways. They may explore and play in natural environments such as trees, rocks, and bushes. They may also engage in outdoor games and sports, or simply run around and enjoy the open space. Studies have shown that outdoor play has numerous benefits for children's physical, social, and emotional development.

**Physical Benefits:**

Outdoor play allows children to engage in physical activity, which is essential for their physical health and development. It helps to improve their gross motor skills, balance, coordination, and cardiovascular fitness. Additionally, outdoor play provides exposure to natural sunlight, which is essential to produce vitamin D and the regulation of the sleep-wake cycle.

**Social Benefits:**

Outdoor play also provides opportunities for children to develop social skills and interact with peers. Children can learn to negotiate, cooperate, and communicate with others, as well as develop leadership and teamwork skills. Outdoor play also helps to improve self-esteem and confidence, as children develop a sense of accomplishment and competence through physical activity and exploration.

**Emotional Benefits:**

Outdoor play can also have positive effects on children's emotional well-being. It provides an opportunity to reduce stress and anxiety, as well as improve mood and overall psychological well-being. Children can also develop a sense of wonder and awe for the natural environment, which can promote curiosity and creativity.

In conclusion, outdoor play during school recess provides numerous benefits for children's physical, social, and emotional development. It allows them to engage with nature and the environment, develop physical skills, build social connections, and improve emotional well-being.



## Resources

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