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# Between regulations and creativity: children's use of affordances for movement in the classroom

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## ABSTRACT

Children have an inherent need for exploration, with movement functioning as a key modality through which they engage with and make sense of the world. Beyond supporting motor development, movement enables children to discover bodily capabilities and forge meaningful connections with their physical and social surroundings. As childhood in Western societies becomes increasingly institutionalised, children spend substantial time in schools, with spaces, such as classrooms, characterised by sedentary routines. Despite evolving pedagogical ideals, educational practices emphasise order and cognitive productivity. However, classrooms may also afford opportunities for movement, as they contain affordances – possibilities for action emerging from interactions between children and their environment. Against this background, the article explores how children (aged 10–12) make use of affordances for movement within the classroom environment. Employing a qualitative methodology, data were produced through classroom observations in two Swedish schools, involving 22 children. The concept of affordance was used to explore children's movement in the classroom. Qualitative content analysis functioned to capture the nuanced and contextual meanings of interactions and movement in an environment such as a classroom. The findings illustrate that children initiate movement within classroom constraints by using physical and social affordances. Some of these affordances were promoted and offered formal functions related to schoolwork, while others were created by the children and interpreted as creative ways to satisfy their need for movement. Additional affordances enabled forbidden movement, which became problematic from the teacher's perspective, revealing a tension between classroom regulations and children's need for movement. This study contributes to debates about the role of physical activity and movement in educational settings by foregrounding children's perspectives and highlighting the nuanced, often overlooked ways they strive to integrate movement into their school lives.

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## Introduction

Children possess an inherent need for exploration, with movement serving as a key modality through which they engage with the world around them. Movement is not merely a prerequisite

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for motor development; it is also a vital means through which children discover their bodily capacities and establish meaningful connections with both their physical and social environments (Stodden et al., 2021). In this sense, movement holds a particular function in childhood that differs from its role in adult life. As children's lives in Western societies become increasingly institutionalised, they spend a significant portion of their time in school, an environment in which they are legally obligated to participate. Education still largely revolves around sedentary practices, where children are expected to sit still at their desks, listen to the teacher, or work independently. This creates a highly regulated setting in which children's bodies are subject to both temporal and spatial control, manifested through rigid timetables and classroom structures (Kirby, 2020). Such organisation aims to maximise learning efficiency by prioritising cognitive skills. However, children's need for movement persists even in these controlled spaces, a need they themselves can both feel and articulate (Högman, 2025). This gives rise to a tension between, on one hand, children's need for movement, and on the other, the school's interest in maintaining order and cognitive productivity. It is from this point of departure that the present article explores how children move within the classroom environment.

Interest in promoting physical activity in schools has grown in recent years (Love et al., 2019); however, such efforts have largely been confined to movement occurring in designated spaces and at specific times, primarily outside the classroom. When movement is allowed within the classroom, it is typically initiated by the teacher. This trend illustrates a broader tendency in which education is increasingly used as a platform for health promotion. In such approaches, children's everyday environments are not primarily understood as spaces for immediate well-being, but rather as strategic arenas for interventions aimed at achieving long-term population-level health outcomes (Larsson & Thedin Jakobsson, 2024). Children are expected to be appropriately active, with physical activity frequently framed in relation to academic goals, such as improved concentration or greater cognitive endurance (Larsson & Thedin Jakobsson, 2024; Vazou et al., 2020; Ward & Scott, 2021). The regulation of children's movement is thus grounded in a notion of future returns, both in terms of academic performance and health (Kirk, 1999).

An excessive focus on academic work aimed at future gains risks overlooking the significance of childhood as something lived in the here and now. We draw on the idea that childhood is understood as a distinct and meaningful phase of life rather than merely preparation for adulthood (Corsaro, 2000, 2024; Mayall, 2015). From this perspective, children's lives, including their embodied lives in school, should be valued both for their present significance and their future implications. This calls attention to children's needs as they are experienced in their everyday environments, classrooms included. It is therefore crucial to understand how children move within the classroom.

## **The moving body and the sedentary classroom**

The focus of this study is children's movement within the classroom. To identify what constitutes movement in a physiological sense, we draw upon the classical definition, where physical activity is defined as 'any bodily movement produced by skeletal muscles that requires energy expenditure' (World Health Organization, 2018). This includes even relatively minor movements, such as walking around the classroom or repeatedly rising up from one's seat. It does not, however, include small gestures such as raising a hand once or twice or writing by hand. While this definition captures the physiological dimension of movement, it says little about the conditions under which movement takes place. Piggin (2020) argues that: 'physical activity involves people moving, acting and performing within culturally specific spaces and contexts, and influenced by a unique array of interests, emotions, ideas, instructions and relationships'. This perspective foregrounds the importance of social, cultural, and material context in shaping how movement is experienced. In the present study, children's movement takes place in a highly institutionalised context marked by strict control over their bodies. This control is embedded in historically established forms of schooling and expressed through the physical and social classroom environment, including routines,

expectations, and teacher – led practices. What becomes central, then, is how the immediate environment, including the teacher, peers and classroom space, conditions and constrains children’s movement.

Physical activity in the classroom may be initiated by the children themselves or guided by adults, typically school staff. The latter includes an approach that has gained considerable attention in recent years: movement integration (MI). MI refers to any physical activity incorporated into academic instruction, such as active learning tasks, short physical breaks between lessons, or classroom transitions, that increase opportunities for movement (Vazou et al., 2020). Many teachers report uncertainty about incorporating movement into classroom routines, often due to concerns that it might disrupt the learning environment and negatively affect academic performance. Others express a lack of policy support and call for clearer guidance on how to effectively integrate movement into their teaching practices (Jørgensen et al., 2020; Sneck et al., 2023). Reviews examining the barriers and facilitators of MI highlight institutional constraints such as limited time, space, resources and administrative support. Interpersonal factors also play a role: teachers’ motivation to implement MI depends on whether they see movement as valuable, feel competent to use it, and believe it can be meaningfully embedded in their teaching. Teachers who perceive movement as difficult to manage tend to be less motivated and more likely to view it as a threat to classroom order (Michael et al., 2019).

Children’s perspectives on movement in the classroom are less commonly explored and often appear as part of evaluations of intervention programmes (Emm-Collison et al., 2022; Martin, 2024). One such example is a study of pupils (aged 5–12) who participated in the ‘Moving to Learn’ intervention in Ireland (McMullen et al., 2019). The pupils described movement during lessons as enjoyable and beneficial, linking it to improved learning and emotional well-being. Many also expressed the belief that physical activity contributes to better health. Another ethnographic study examined movement among early adolescents (ages 12–16) during the school day and found that pupils expressed a desire for more movement in the classroom, but their activity was shaped by adult-centric power structures that determined who had the authority to plan and implement physical activity. Movement was regulated by school norms tied to academic identity: being a ‘good’ student meant sitting still, listening attentively and completing tasks. Gender also played a role; girls appeared more restricted in their physical expressions due to narrower socially accepted margins of action, while boys more often used movement to challenge or resist norms associated with the passive student role (Hoy et al., 2025).

Taken together, previous research illustrates how children’s and schools’ interests in relation to movement are not always aligned. This mismatch underscores the need to explore how children themselves navigate their need for movement within the sedentary structure of school life, and particularly within the classroom. One way to do so is to explore how pupils use their bodies in situ, that is, how they act and interact within the constraints and affordances of the classroom environment.

### **Affordances for movement in the sedentary classroom**

To explore children’s movement in the classroom, we use the concept of affordance, which can help understand the interaction between the children and the environment in the classroom. The concept of affordance is a central part of Gibson’s (2015) theory of perception and emphasises that perception involves not only the reception of sensory information but also the interpretation of action possibilities offered by the environment. Gibson (2015, p. 119) explained that affordances are what the environment ‘[...] offers the animal, what it provides or furnishes, either for good or ill’. He further explains that the concept ‘[...] refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment’ (Gibson, 2015, p. 119). An affordance can thus be understood as a feature of the environment that emerges through the interaction between the individual and the environment. A slide, for example, becomes an affordance for a child because the child perceives it as ‘slidable’ and, thus,

inviting sliding. The interaction between the child and the environment is influenced by the child's abilities, the material characteristics of the environment, and the social context in which the child is located (Heft, 2003). Heft (2003) describes affordances as dynamic entities emerging within the continuous interaction between individuals and their environment. Therefore, affordances may be particularly useful for studying children's movement in the classroom, as they manifest themselves in the dynamic and context-dependent interplay between the child and the environment. In this context, affordances can be categorised into physical and social dimensions: Physical affordances pertain to the opportunities for movement provided by the material environment, whereas social affordances encompass the possibilities for movement that arise through social interactions (Pardali et al., 2024).

The theory of affordance has been used in previous studies in educational contexts to explore child-managed bodily play in after-school programmes (Løndal, 2013) and to capture children's perspectives on the physical environment in early childhood education care (Sando & Sandseter, 2022). The affordance theory has also been applied in a study to understand how pupils (10-year-olds and 15-year-olds) perceive, interpret and use the physical and social school environment to promote or constrain physical activity possibilities (Pardali et al., 2024).

We have been inspired by a further development of the concept of affordance that not only focuses on the physical environment but also includes a socio-cultural perspective (Aspán, 2009; Heft, 2003; Kytä, 2004; Løndal, 2013; Pardali et al., 2024; Reed, 1993; Sando & Sandseter, 2022), which means that social and cultural contexts influence how affordances can be perceived, utilised and shaped. In this vein, Reed (1993) makes a distinction between the Field of Promoted Action and the Field of Free Action to explain how the individual's opportunities for action are shaped in relation to both the environment and social norms. Aspects of the environment to which an individual attends because of consistent encouragement from others are collectively described as the Field of Promoted Action. In the classroom, for example, sitting still in one's chair and writing can be seen as a promoted action, while spontaneously standing up to move around in a playful manner is not encouraged. The Field of Free Action encompasses those affordances and activities that the individual realises by themselves and is allowed to use. These are actions that take place outside the regulated sphere, but they are possible due to the child's creativity and reading of the situation (Reed, 1993). In the classroom, this might mean a child hanging on to the desk or getting up to ask a friend for help with an assignment.

Having outlined the tension between children's interest in movement and the school's interest in maintaining order and academic focus, as well as our theoretical understanding of how children's movement in the classroom emerges, the aim of this study is to explore how children (aged 10–12) make use of affordances for movement within the classroom environment.

## Method

In order to gain a complex and deep understanding of the affordances children use for movement in the classroom, we applied a qualitative approach, using observation as a method to produce data. The study was approved by the Swedish Ethical Review Authority (Dnr. 2023-03963-01), and follows the Swedish Research Council's (Vetenskapsrådet, 2024) guidelines for research.

## Participants and settings

The recruitment of participants, striving for variation, included primary schools in Sweden from different municipalities spanning varied socio-economic areas. Ten primary schools were invited to participate in the study via e-mail/telephone, and two schools in urban areas agreed to participate. Following the school principals' consent, teachers in core subjects (Swedish, English and Math) were asked if their class could participate. We invited teachers who teach the same class in core subjects because we wanted a similar environment for the observations (the same teacher,

classroom and subjects). One teacher at each school chose to participate and offer their class as participants. Information and consent forms were sent to guardians of the children in these classes. Children who returned the consent form with approval from guardians were eligible to participate in the study and, in turn, had to give their written consent to participate. The children were also reminded they could withdraw at any time without any consequences. Teachers' reluctance to participate appeared linked to limited time resources and a strong emphasis on academic achievement, which may reflect educational norms in which movement remains undervalued as an integral component of teaching and learning. Participation among 12-year-olds was low (6 of 24), primarily due to a lack of parental consent and the children's limited trust in adults. Differences in socioeconomic context may also have influenced participation, as the school with few participants was in an area with lower educational attainment among guardians. Participation among 10-year-olds was considerably higher (16 of 24). A total of 22 children participated, comprising 10 girls and 12 boys. In Sweden, children with diverse needs are included in mainstream classroom settings, which allows the findings to reflect real-world classroom diversity.

Small-scale observational studies can yield contextually rich insights. As Pink (2021) argues, qualitative inquiry prioritises depth over breadth, allowing limited samples to generate meaningful understanding. Accordingly, observing two classes can be sufficient to explore the affordances children use for movement in the classroom, comparable to focus group studies that capture participants' experiences (Carlman, 2025).

The two classrooms where the observations took place have common features in their design and function. In one classroom, the children's desks also serve as storage space for their books and pencils; in the other, children must go and fetch their materials separately. Furthermore, one classroom offers a soft carpet and a sofa, which is not found in the other. The teacher's position also differs; in one of the classrooms, there is a desk at the front, while in the other, the teacher works at a round table at the back. Common to both environments are the large whiteboards, the generous windows, a sink where children can fetch water, and a large mobile cabinet for storing the children's computers. All the children have a chair and a desk where they are expected to sit still and focus on the task introduced by the teacher.

## Data production - observation

The advantage of observations is that they may take place in natural settings rather than in 'artificial' situations such as interviews or completion of questionnaires. In this case, observations allowed us to examine the children's direct actions in their authentic classroom environment (Jones, 2022). Further, the method allows for identifying behaviours not apparent to the subject and behaviours that the subject may be unwilling to disclose. During observation, the researchers are close to children's actual behaviours. Although observation as a method has several advantages in capturing children's actions here and now, there are also potential challenges. One challenge is the likelihood that the researcher misunderstands what is happening (Jones, 2022). In this study, we tried to prevent this by involving one more researcher as an observer for half a day to function as a critical friend (Stolle et al., 2018). In relation to the observations made, thus contributing to a more nuanced picture of the affordances children use in terms of movement in the classroom.

The first author, in the role of observer, attended lessons in core subjects in the two participating schools for 50 h in total during February 2024. The children and the researcher were already familiar with each other, having met when the researcher visited the school to inform them about the study and during child-led tours and interviews conducted with the children as part of another study on children's experiences of movement opportunities during the school day. These previous encounters facilitated the researcher's ability to blend into the environment. At the same time, the researcher's presence always implies some impact on the children and the teacher. This can be seen as a limitation inherent in observational methods, which may influence the naturalness of the context (Jones, 2022). During the observations, the researcher kept a low profile and sat in the same place to provide

security and continuity, but if children moved out of the classroom, the researcher followed to observe what was happening. The observational notes comprised a description of the setting, the participants and relevant actions and behaviours in relation to the aim of the study. In writing the notes, the researcher strived to include detailed descriptions; they also contained reflections of the researcher's account of the situations that helped interpret the situations later (Jones, 2022). The observational notes were written in Swedish and translated into English by the first author. The second author checked that the translations captured the content from the observational notes.

## Data analysis

The observational notes were transcribed verbatim by the first author, with the transcriptions saved on a cloud-based storage service. The system is configured for information security and compliance with GDPR. Both authors read the text repeatedly to gain a holistic sense. Qualitative content analysis (Graneheim & Lundman, 2004) was used to analyse the affordances children use for movement in the classroom. This mode of analysis allows for capturing the nuanced and contextual meanings that are important when studying interactions and movements in an environment such as a classroom. By analysing the observational notes, patterns and themes were identified that describe children's movements and highlight the relationships between these movements and the classroom environment.

The first author carried out the initial coding where *meaning units* (words, sentences, paragraphs) containing aspects related to the aim of the study were identified (Graneheim & Lundman, 2004). This resulted in 462 codes. Twenty-five codes were excluded as they related to movement initiated by the teacher. An example of a meaning unit was as follows:

During an English lesson when the children are supposed to be working on reading comprehension in a program on the computer, a girl put on a YouTube video with a dance and English speech instead. She puts on her headphones and starts dancing to the music.

A process of shortening but still preserving the core (*condensation*) followed. Condensed meaning units (descriptions close to the text) were then further interpreted to find the underlying meaning. For instance, the example above was condensed to 'girl using the computer and YouTube videos to dance' and interpreted as 'a child using an offer in the form of the computer and YouTube to dance'. In relation to the interpretation of the meaning units, the theory of affordances (Reed, 1993) was seen as constructive in aiding the understanding of the relationship between children's movements and the environment. A reflective process between the two authors resulted in a set of *sub-themes*. Examples of sub-themes include *Movement to pick up and drop off materials*, *Movement to interact with friends*, *Movement for play*, *Movement to escape academic demands*, *Movement to express emotions* and *Movement to counteract boredom*. Finally, two *themes* (*Physical affordances* and *Social affordances*) were developed based on previous research and the theoretical framework.

## Findings

All participants have been assured that the information from the observations will be treated confidentially. Therefore, the material has been pseudonymised in its presentations. The themes *Physical affordances* and *Social affordances* describe the relationship between children's movement and the classroom environment with the intention of clarifying the findings while recognising that the two themes intersect and overlap.

### *Physical affordances*

The most common physical affordances children used to move in the classroom were picking up and dropping off materials, sharpening their pencils, drinking water and going to the toilet. We call these

affordances functional as they had a clear, formal function and represent accepted actions in the classroom related to work practices. The situation below is an example.

Elin sits at the back of the classroom, leaning over her math book. The blunt pen moves slowly across the checkered paper. Her gaze slides up from the book to the blue pencil sharpener on a table at the front of the classroom. Elin closes the book and stands up quickly. She starts to run with small, quick steps, and soon, she has picked up speed. She slides forward towards the pencil sharpener. She carefully sharpens the pencil, then jogs back to her seat and continues writing.

The situation shows how Elin uses an affordance in the form of a pencil sharpener to move out of what we interpret as a real need to sharpen her pencil. It is also noticeable that she takes the opportunity to perform extra movements by sliding swiftly across the floor.

Some physical affordances had no obvious formal function but were rather interpreted as something that the children creatively constructed themselves. In the observations, we could see that the children used affordances for movement creatively and strategically by, for example, retrieving materials available in the classroom in several rounds. For example, the cabinet that stores the children's computers and headphones served as an affordance for movement. In the same way, some children used less obvious physical affordances for movement, for example, hanging on the desk or using the soft carpet. These behaviours require considerable imagination and creativity from the individual child. The situation below illustrates this.

After a long period of concentration, Karl pushes the book away. He slides down from the chair and under the desk. With a firm grip on the edges of the desk, he allows his body to hang seemingly relaxed before letting go in a controlled manner and climbing back onto the chair.

Another example of children's ingenuity in using the classroom's physical environment to move around is when Philip successfully solved a complex math problem and then used the carpet for movement.

Philip looks down at the sizeable soft carpet on the floor and smoothly dives down on his stomach, then spins around on his back and goes up into a bridge. He remains standing for a long time with his feet and hands firmly anchored to the carpet and his body in a high arch.

Through the childrens' computers, digital media also becomes part of the environment that offers various affordances. The invitation to move originates from the screen, but the movement requires the physical environment in order to be carried out.

During an English lesson, when the children work on reading comprehension in a computer program, Lisa clicks on a YouTube video instead. Colourful numbers in English flash by in time with a catchy tune. Lisa mimics the dance steps shown on the screen as she puts on her wireless headphones. Her feet follow the rhythm, her arms swing in time, and her mouth molds the English words being sung. Her eyes are fixed on the screen, but her body moves freely in the small space between the rows of desks. She spins and follows the movements, seemingly absorbed in the rhythm and the sensation of moving.

Children show creativity in using physical 'non-functional' affordances for movement in the classroom. These actions assume that the individual child has specific abilities and previous experiences of movement. It also requires an awareness of how to navigate strategically to move while adhering to prevailing norms and rules that emphasise sedentary behaviour or movement initiated by adults as a prerequisite for academic success.

In the observations, situations emerged where children used physical affordances for movement outside what is considered acceptable according to the prevailing norms and rules in the classroom. The following situations exemplify how children use physical affordances for movement, which seems to function as a way of coping with feelings that arise when they cannot live up to the demands of school. An example of how a child uses the open space of the corridor as an arena for movement and self-determination is described below.

The children work independently on their reading projects to be presented orally, but Alex has not started. He looks tired and asks the teacher to go into the corridor to work.

The teacher says:

–“No, there are other pupils there now.”

Alex gets up and walks out into the corridor. He runs back and forth several times, then stops and kicks his locker. Alex takes a box of fruit out of his bag and goes back to the classroom.

The teacher asks:

–“Are you going to eat fruit before lunch?”

–“Yes, no other pupils are in the corridor now”, Alex answers.

During the observations, a picture emerged of how children use physical affordances for movement to cope with a demanding school situation. Alex uses the corridor to move away from the classroom, an action that does not seem to fall within the framework of what is seen as accepted movement. Some children use the classroom’s physical environment to move and thus distance themselves from feelings of inadequacy, as shown in the example below.

Melvin sighs heavily as he flips through his math book to see how much is left to achieve today’s goal. He looks dejected, and instead of continuing, he stands up and stomps while tapping his pencil against the desk. The frustration seems to subside as if the movement helps him shut out his feelings of inadequacy. His shoulders, previously tense, slowly relax.

After a while, he walks with seemingly new energy towards the sink. He picks up the washing-up liquid, brush, and a pile of paper. Back at his seat, he sprays the liquid, takes a firm grip on the brush, and starts scrubbing the desk vigorously, sweepingly. The foam forms tiny bubbles, and he presses the brush down even harder as if scrubbing away something more than dirt.

His body moves in time with the brush - a rhythmic dance around the desk. He rubs, spins, and stretches as if his whole being is engulfed in the cleaning. It is as if the movement creates a calm, a temporary refuge from the goals he cannot reach.

We interpret the situations above as ways for children to resist a regulated school day with constant demands of academic performance and constraints for when to move and not move, guided by adult perspectives. The children use physical affordances for movement to leave behind an overly demanding school situation temporarily. Observations also revealed that children use affordances for movement to escape when they do not receive the support they need.

During a lesson in English, many children need help to solve tasks requiring analytical answers. Julia is one of them, raising her hand high in the air. After a while, she must support her arm with the other hand. After some more time without help, Julia puts her head down on the desk but continues trying to keep her arm in the air. Eventually, her arm drops, and Julia closes her eyes momentarily. When she looks up again, she seems to have given up hope of getting help. Instead, Julia gets an apple from her backpack and then strolls around the classroom, eating her apple in small bites.

The situation above shows how Julia uses physical affordances to move around, including wandering the classroom seemingly aimlessly. We interpret the movement as a way of coping when not receiving the support she needs. It is as if, when she is not cognitively engaged, she needs to activate her body in order to do *something*.

### **Social affordances**

Some affordances did not originate in the physical environment but rather in the social dynamics present in the classroom. The most common of such social affordances children utilised involved children walking to talk to each other and/or working together:

Samuel pushes back his chair and stands up. With the math book under his arm, he starts to move through the classroom, zigzagging between desks. When he passes Robin, he stops. Without a word, he raises his hands and makes a few quick movements in front of Robin's face - it looks like shadowboxing in the form of a silent greeting ritual that he has repeated many times. Robin smiles and leans back in his chair as if trying to duck but waiting for what's next.

-“What's up?” Samuel asks, still moving. “Do you want to meet after school?”

Robin nods before the teacher's voice reminds them to get back to work. Samuel smiles wryly, gives him a gentle shove on the shoulder, and continues to his two other friends, where he sits down.

The situation shows how children use social affordances involving moving around the classroom to do schoolwork with friends. It was also evident from the observations that children creatively use social affordances to move more freely in playful ways, as the situations below illustrate.

Astrid, Moa, and Hanna ticked off the lesson's objectives and exchanged restless glances before sneaking into the corridor. With quick steps, they make their way to the stairs, where, without a word, they fall into a game to catch each other. They smile delightedly as they touch each other or quickly move out of the way. Their feet move almost silently up and down the stairs while their breathing becomes more vigorous, the movement part of their wordless interaction. When they return to the classroom, they tiptoe as if they still carry the energy of play in their bodies. Astrid suddenly puts out her hands and starts tickling the other two, who burst out laughing. Moa and Hanna playfully retaliate by throwing themselves on top of her, and soon, the three have entwined their arms. They spin around in a whirling dance and finish in a hug.

The social affordances the girls use to move around connect them in both play and friendship. One possible interpretation is that the children have clear needs, both to move their bodies and to interact with their friends in playful ways. These are needs that the children find subtle ways to satisfy. The situation below further illustrates this:

Olof and Matthew lean towards each other and whisper before raising their hands and asking if they can go out and work in the corridor. The teacher nods, and they immediately get up. However, before they leave, they take some blank paper with them. Once out in the corridor, they sit down on the floor to bend and fold the paper with clumsy movements. They laugh at their creations - fake 3D glasses. As soon as the glasses are on, they start moving around the corridor like they have entered a new world.

- “This is like a game,” says Matthew, stretching his arms out in front of him, tentative in the imaginary reality.

Olof joins in, pretending to jump over invisible obstacles and turning his head as if scanning a digital map.

The paper distorts their vision more than they expected. Matthew steps to the side - and crashes into the coat hangers that frame the corridor. With a thud, he falls backward, and Olof bursts into a loud laugh that echoes through the otherwise empty corridor. Matthew remains still for a moment; then, he starts laughing.

The situation shows how the two boys not only have strategies for moving out of the classroom but also find a new world where the corridor becomes a playground and imagination makes the rules.

In certain observed situations, the children appeared to make an effort to stay within the rules imposed by the classroom setting. However, their bodily, emotional and social states seemed to demand a degree of movement that they were simply unable to suppress.

Hampus is drawing, humming low to himself. Then he gets up and starts dancing, swaying to the beat of a tune he seems to make up himself.

The teacher's voice breaks through the room. “Ssh!”

Before Hampus can settle down, he is surprised by two arms grabbing him from behind. Nils has jumped on Hampus' back, more in a playful embrace than to stop him. Hampus stiffens, but then he smiles and keeps moving - now with Nils as a living backpack. He takes exaggerated steps across the floor, swinging around and trying to keep his balance while Nils clings on, laughing.

The teacher hisses again and gives them both an exhortative look.

They stop and clamber back to their chairs with heavy, dramatic steps, still with slight smiles - as if the game is alive in their bodies, ready to take off again at the first opportunity.

The situations above illustrate how the children make use of social affordances by responding to social actions initiated by other children. At times, they take it a step further by actively seeking out, or even creating, conditions for social interaction that open up opportunities for movement within the classroom.

The findings highlight the tension between classroom rules and norms shaped by an adult perspective concerning what is deemed best for children, prioritising sedentary behaviour to support academic achievement, and children's need for movement, which becomes evident in the affordances they use for movement. Children actively relate to prevailing rules and norms by navigating within and around them, using physical and social affordances for movement. Many children are experts at using affordances for movement that are within the framework of the classroom rules, and some children appear to strategically and creatively challenge and circumvent rules and norms to create opportunities for movement. There are also children using affordances for movement to resist a regulated school day and to counteract not receiving the support they need.

## Discussion

The aim of this study was to explore how children (10–12 years) make use of affordances for movement within the classroom environment. In contrast to previous studies that have primarily concentrated on researcher-led interventions to promote children's movement in the classroom (Vazou et al., 2020), the present study focuses on how children actively engage with and use their classroom environment to facilitate movement.

The findings show that children use both physical affordances and social affordances to move within the classroom environment, aligning with previous research on physically active learning and recess (Pardali et al., 2024). The most common physical affordances children used were what we call functional, as they have a clear formal function and represent accepted actions in the classroom, for example, picking up and dropping off materials. These movements can be said to take place within the field of promoted action (Reed, 1993). They are movements that are permitted and even encouraged by the teacher. These movements could also be social in nature, such as walking over to a classmate to ask for help, if permitted, or approaching the teacher.

Some affordances were opportunistic and interpreted as something that the children creatively constructed themselves, for example, retrieving materials available in the classroom in several rounds or hiding interaction with a friend under the cover of it being related to schoolwork. Children use their creativity for creating a playful atmosphere, which balances between accepted and unaccepted behaviour. This can be understood as acting in the Field of Free Action (Reed, 1993). By using their creativity, children navigate within and around the rules and norms that require them to sit still, without clearly breaking them. The observations clearly demonstrated that children creatively utilised both physical and social affordances to satisfy their need for freedom of movement and playful engagement. Children moved to their 'own spaces', such as the hallway, to escape adult control and to have the opportunity to move more freely and playfully. This may be interpreted as a way to escape a highly controlled school situation imbued with academic demands.

Children's use of spaces free from adult control for more playful movement resembles previous studies where children's need for movement is seen as a kind of respite from adult control and academic tasks, as well as an opportunity to engage with friends in more unstructured, socially rich ways (Sando & Sandseter, 2022; Ward & Scott, 2021). The social environment of the classroom, dominated by adult-centric norms, such as valuing stillness and academic results, shapes not only expectations connected to children's behaviour but also their perceptual field (Reed, 1993). Within this field, movement is devalued or restricted in favour of what is perceived as beneficial for cognitive and academic performance. This makes children's bodily needs a site of adaptation, resistance or creative

negotiation (Hoy et al., 2025). Children use affordances for movement as a demonstration of power; they move their bodies away from an overly demanding school situation. Such actions can be understood as embodied expressions of children's needs. Teachers, therefore, should attend to children's bodily communication and take these signals seriously. This aligns with Article 12 of the United Nations Convention on the Rights of the Child, which states that children have the right to be heard in matters affecting them (United Nations, 1989).

Some children lacked strategies to navigate the classroom norms. They tried to take power by moving around the classroom or even away from the classroom. However, this often resulted in conflict with the teacher, who considered their behaviour problematic. Such conflict may reflect teachers' uncertainty about incorporating movement into classroom routines, often due to concerns that it might negatively disrupt the learning environment and affect academic performance, as discussed in previous research (Jørgensen et al., 2020; Sneek et al., 2023). This is, for example, illustrated in the observations when Hampus starts to dance accompanied by Nils, jumping on his back. The boys' playful movement is halted by the teacher's controlling gaze, signalling they are displaying behaviour that goes beyond the limits of acceptable actions within the classroom's emphasis on order. The boys' movement is not seen as acceptable behaviour and may be referred to as acting in the field of forbidden action, where children might be pictured as creating problems. Previous studies have pointed to the fact that school structures children's movement through adult-led offers, often based on adults' concerns about children's health and academic performance, rather than based on children's needs and interests (Högman, 2025; Kirby, 2020; Ward & Scott, 2021). Is it justifiable to expect children to rely on their creativity to access opportunities for movement in the classroom, and what are the consequences for those who are unable to navigate, resist, or reinterpret dominant norms and regulatory structures?

## Limitations and future research

This study included two classrooms from two schools (22 children). Although the small sample limits generalizability, it is appropriate for a qualitative approach, allowing for an in-depth understanding of children's movement and interactions in the classroom environment. The findings support analytical generalisation (Smith, 2018) and may inform research in similar classroom contexts across cultural settings.

This study did not adopt a theoretical framework aimed at identifying gender differences; however, the observations suggest that gender influences how children use affordances for movement within the classroom environment. As indicated in a previous study (Hoy et al., 2025), girls appeared to be more constrained by narrower spaces of action, while boys were more likely to engage with movement-related affordances in ways that challenged or resisted norms associated with the sedentary nature of the classroom environment. Future research should take these differences into account and engage more explicitly with gender as an analytical tool.

## Conclusion

The study contributes new qualitative insights into how children use both physical and social affordances for movement within the classroom, although it requires much from the individual child to creatively use affordances to move in an environment where sedentary behaviour is rewarded. Children's use of affordances for movement is dependent on the interaction with the environment, influenced by the child's abilities, the material characteristics of the environment, as well as the social context in which the child is located (Heft, 2003). In this sense, affordances for movement are not simply perceived and used; they are co-constructed through interaction with a norm-regulated environment, highlighting the child's negotiation between institutional regulations and individual creativity.

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