

# WHY SHOULD KIDS MOVE AT SCHOOL?

Christopher J. Brush<sup>1,2\*</sup>, Christopher B. Merica<sup>1</sup>, Karie Orendorff<sup>3</sup>, Karly Knudson<sup>1,2</sup>, Lori M. Klein<sup>1</sup> and Cate A. Egan<sup>1</sup>

#### YOUNG REVIEWERS:



JAMES AGE: 15



KABILAN AGE: 10



NIMALAN AGE: 8 Children need to move their bodies. Movement of the body is also called physical activity. Physically active kids have healthier bodies and minds. When kids are physically active, it helps their bodies and minds feel good. Most kids do not meet national recommendations for physical activity. Schools are a great place to help kids move more. One way to do this is to provide opportunities for kids to be physically active in the classroom. When kids are physically active in the classroom, this is called movement integration. When kids sit for too long, they might feel sad and lonely, but when teachers use movement integration kids feel happier and ready to learn. In this article, we will talk about why movement integration is important and how it can help kids do better in school.

<sup>&</sup>lt;sup>1</sup>Department of Movement Sciences, University of Idaho, Moscow, ID, United States

<sup>&</sup>lt;sup>2</sup>School of Kinesiology, Auburn University, Auburn, AL, United States

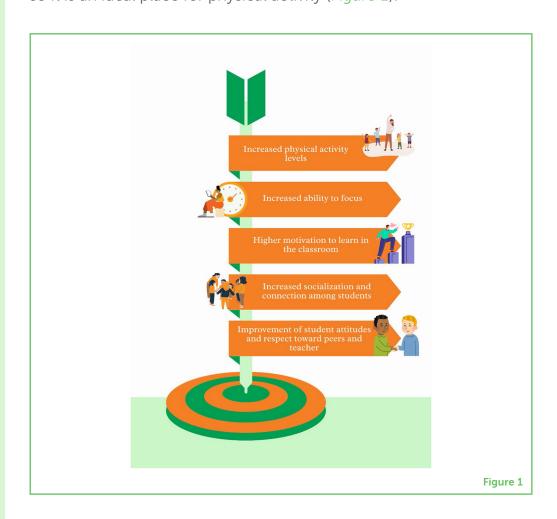
<sup>&</sup>lt;sup>3</sup> Department of Food Systems, Nutrition and Kinesiology, Montana State University, Bozeman, MT, United States

# WHAT IS PHYSICAL ACTIVITY AND WHAT ARE ITS BENEFITS?

Physical activity is any movement that requires the body to use energy. Common physical activities include walking, biking, running, skipping, jumping, and playing sports. When you move your body, you improve your mental and physical health and increase your ability to learn and concentrate in school [1, 2]. Unfortunately, most kids are not active enough each day to achieve the recommended daily physical activity goal of at least 60 min [3]. One popular way to increase physical activity among kids is to provide more opportunities to move at school—where kids spend a lot of their time. Most kids attend school, so it is an ideal place for physical activity (Figure 1)!

Figure 1

Movement integration in the classroom has multiple benefits.



#### **SEDENTARY**

Participating in little to no physical activity during the day, spending most of the day seated.

### SCHOOLS ARE A GREAT PLACE TO MOVE YOUR BODY

Kids sit the most during class. When they are not physically active and spend too much time being **sedentary** (sitting at their desks), they do not learn as much or do as well on tests [4]. Physical education is one place where kids can be physically active in school. However, for most kids, physical education only occurs once or twice a week, or for only one semester of the academic year. The other option for

physical activity is recess. Recess is a great place to be physically active, but because of the increased focus on academic learning time, recess time has been reduced or cut from many schools. For these reasons, additional physical activity opportunities for kids in school are important. Remember, kids who are physically active perform better in their academics!

## WHAT IS MOVEMENT INTEGRATION?

To increase physical activity, teachers can include physical activity in their classrooms, which is called **movement integration**. Movement integration can be a part of a lesson or a fun break from learning. For example, you can jump as far as you can and then measure how far you jump during a math lesson. Another example is having a dance party in class, so that you can take a break from learning. Movement integration can also include calming activities, such as stretching and yoga. Other ideas include having furniture and equipment in a classroom that allows kids to move, like sitting on an exercise ball or a rocking stool (Table 1). In addition to increasing kids' physical activity levels, researchers discovered that movement integration improves their concentration in the classroom [5].

# WHY DOES IT MATTER HOW KIDS FEEL ABOUT MOVEMENT INTEGRATION?

Since movement integration is a great way for classroom teachers to help kids concentrate and perform better on tests, it is important to understand how kids feel about movement integration. When teachers understand kids' experiences, they can provide movement integration experiences that kids enjoy. Kids who feel like their thoughts and ideas are considered by their teachers are more motivated to learn and be a part of the classroom community. In general, feelings about experiences can be divided into two categories: pleasant (i.e., positive feelings, like joy) or unpleasant (i.e., negative feelings, like sadness) [6].

# MOVEMENT INTEGRATION INCREASES PLEASANT EXPERIENCES

Kids report feeling happy and strong and experiencing increased energy levels after movement integration [7]. Kids also enjoy connecting with their peers through movement integration. In terms of mental health, feeling energized, happy, and connected to peers is important for keeping a happy and healthy mind. When kids feel good and connected to their peers, they are more prepared to learn, stay focused, and perform better in the classroom. Teachers should

### MOVEMENT INTEGRATION

The practice of including physical activity in everyday classroom routines.

### Table 1

Examples of movement integration that could be incorporated into academic subjects.

Academic subject	Movement integration idea	Description
Geography	Gallery walk	In small groups, students will design a poster about a historical area in a city. Once the posters are completed, students will move around the classroom to view and discuss the work of other groups.
Health	20 Questions	Choose a healthy food for the students to guess in a game of 20 Questions. Also, select one or more movements (arm circles, air squats, toe touches) and for each "yes" or "no" question students ask, they must complete five repetitions of the selected movement. If it takes all 20 questions to correctly guess the food, students will complete a total of 100 repetitions.
History	Thespians	Students will use appropriate movements to act out different historical events.
History	Quiz trade	Students will write a quiz question on one side of a notecard and the answer on the back. Students will then walk around the classroom, find a partner, and take turns asking and answering each other's questions. After each student has had a turn, they will rotate to someone new and repeat the process.
Language arts	Stretching	Students will use their bodies to form the letters that spell out vocabulary words.
Language arts	Walk and talk	After reading a story, students will find a partner and go on a walk together. During the walk, students will discuss a set of questions about the story, taking turns asking and answering.
Math	Basketball math	Students will go outside and measure different distances from the basket. After selecting each distance, students will attempt shots and record a tally of how many shots were made. Students can create a graph of the data and determine which distance is easiest for making a basket.
Math	Stations	Math stations will be set up around the classroom. In small groups, students will complete a set activity at each station within a certain time frame. When time is up, students will move to the next station using different movements (walking like a giant, hopping, or crab walking).
Math	Scavenger hunt measuring	Students will receive a list of objects and measure the distance between them. They will then create a diagram that shows both the heights and distances between the objects.
Science	Chalk drawings	Students will go outside and use chalk to draw parts of the human body (heart or lungs) and label the various components.

Table 1

learn how to integrate movement into their classrooms to aid students' mental and physical health and learning.

# SOCIALIZATION

Interacting with others to create connections and to learn respectful ways of behaving in groups.

# MOVEMENT INTEGRATION DECREASES UNPLEASANT EXPERIENCES

When kids sit too long, they feel bored and anxious and experience physical discomfort, such as feeling sore and tired. They also feel isolated from their peers and are unable to concentrate on learning. When students feel negative, isolated, and unable to concentrate, learning is difficult [7]. Through movement integration, kids can take breaks, feel connected, and have more positive **socialization** experiences. When kids engage or re-engage in the learning process after movement integration, they are better prepared to learn, which is a primary goal of education.

# MOVEMENT INTEGRATION IS A FUN, EFFECTIVE GREAT SOLUTION

Movement integration helps kids increase their physical activity levels, improve academic performance, and reduce negative behaviors like talking out of turn or bothering others. To encourage its use, researchers, teachers, and kids should share its benefits with school principals. When principals and teachers listen to kids' experiences and ideas, kids feel more engaged and connected. By focusing on the importance of each kid's social, mental, and physical wellbeing, educators can increase their learning potential. Many organizations worldwide support movement integration in school, such as *Active Schools* in the United States, *Active School Flag* in Ireland, and *Finnish Schools on the Move* in Finland. When put into action the right way, movement integration is a powerful tool to increase kids' physical activity levels and improve their school performance.

### AI TOOL STATEMENT

Any alternative text (alt text) provided alongside figures in this article has been generated by Frontiers with the support of artificial intelligence and reasonable efforts have been made to ensure accuracy, including review by the authors wherever possible. If you identify any issues, please contact us.

#### **REFERENCES**

- Donnelly, J. E., Hillman, C. H., Castelli, D., Etnier, J. L., Lee, S., Tomporowski, P., et al. 2016. Physical activity, fitness, cognitive function, and academic achievement in children: a systematic review. *Med. Sci. Sports Exerc*. 48:1197–222. doi: 10.1249/MSS.0000000000000001
- 2. Andermo, S., Hallgren, M., Nguyen, T. T., Jonsson, S., Petersen, S., Friberg, M. R., et al. 2020. School-related physical activity interventions and mental health

- among children: a systematic review and meta-analysis. Sports Med. Open 6:25. doi: 10.1186/s40798-020-00254-x
- 3. U.S. Department of Health and Human Services 2018. Physical Activity Guidelines for Americans, 2nd Edn. Washington, DC: U.S. Department of Health and Human Services.
- 4. Tremblay, M. S., LeBlanc, A. G., Kho, M. E., Saunders, T. J., Larouche, R., Colley, R. C., et al. 2011. Systematic review of sedentary behaviour and health indicators in school-aged children and youth. Int. J. Behav. Nutr. Phys. Act. 8:98. doi: 10.1186/1479-5868-8-98
- 5. Goh, T. L., Fu, Y., Brusseau, T., and Hannon, J. 2018. On-task behavior of elementary students during movement integration. J. Phys. Educ. Sport 18:103-6. doi: 10.7752/jpes.2018.01013
- 6. Watson, D., Wiese, D., Vaidya, J., and Tellegen, A. 1999. The two general activation systems of affect: structural findings, evolutionary considerations, and psychobiological evidence. J. Pers. Soc. Psychol. 76:820-38.
- 7. Egan, C. A., Orendorff, K. L., Merica, C. B., and Brush, C. J. 2025. Movement, my favourite thing: children's perception of movement integration in school. Curric. Stud. Phys. Educ. 16:155-73. doi: 10.1080/25742981.2024.2374321

SUBMITTED: 06 September 2024; ACCEPTED: 06 August 2025; PUBLISHED ONLINE: 29 August 2025.

**EDITOR:** Danila Gurgone, University of Glasgow, United Kingdom

**SCIENCE MENTORS:** Sophia S. Wang and Lena Palaniyappan

CITATION: Brush CJ, Merica CB, Orendorff K, Knudson K, Klein LM and Egan CA (2025) Why Should Kids Move at School? Front. Young Minds 13:1492450. doi: 10. 3389/frym.2025.1492450

**CONFLICT OF INTEREST:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

COPYRIGHT © 2025 Brush, Merica, Orendorff, Knudson, Klein and Egan. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.

## **YOUNG REVIEWERS**

JAMES, AGE: 15

I am an aspiring sports medicine student. I enjoy problem-solving and helping others achieve their very best, on and off the field.









I like to read. It is my favorite pastime. I also like to know how the brain and the body works. The other thing I like a lot is soccer—both playing and watching. I can speak French, English and to some extent Tamil as well.

#### NIMALAN, AGE: 8

I like to be with my friends and chat a lot. I also play soccer and like hip hop dancing. I speak French, English and to some extent Tamil. I love listening to music on YouTube when my dad is driving.

## **AUTHORS**



#### CHRISTOPHER J. BRUSH

Christopher J. Brush is an assistant professor at Auburn University. His research focuses on physical activity and exercise and how these behaviors promote mental health. He teaches students preparing for a range of careers, including healthcare professions and physical and health education. \*cbrush2@gmail.com



#### CHRISTOPHER B. MERICA

Christopher B. Merica is an assistant professor at the University of Idaho. He prepares future physical educators to be lifelong advocates of physical activity and health. His scholarly work is focused within the Whole School, Community and Child framework, where physical activity leadership and programming are of specific priority and focus.



#### KARIE ORENDORFF

Karie Orendorff is an assistant professor at Montana State University. She prepares future physical education teachers, and her research focuses on increasing physical activity before, during and after school.



#### **KARLY KNUDSON**

Karly Knudson is a Ph.D. student at Auburn University. Her research aims to better understand the relationship between physical activity and psychological wellbeing. She also assists in teaching courses related to exercise and health psychology.



#### LORI M. KLEIN

Lori M. Klein is a Ph.D. student at the University of Idaho. She assists in courses to instruct preservice physical education and health teachers.



### CATE A. EGAN

Cate A. Egan is an associate professor at the University of Idaho. She teaches future physical education and health teachers. She researches how to improve health and physical activity before, during, and after school.