



Children's Issues Technical Group

Newsletter 05 [Sept 2020]



**Human Factors and
Ergonomics Society**

Our purpose

The Children's Issues Technical Group (CITG) consists of individuals interested in research, design, and applications concerning human factors and ergonomics (HFE) issues related to the children's emerging development from birth to adulthood including their caregivers. Example application areas include injury prevention, product usability, physical and cognitive maturation, mental workload and decision-making, in home, school, work, recreation, and vehicle environments.

One of the goals of the CITG is to keep members informed of current issues and developments in the area through its newsletter and its technical sessions at the annual HFES meeting. The group also maintains, through activities of its members, relationships with other safety organizations and standards-making bodies.

MEMBERSHIP

The CITG consists of individuals who work in various areas pertaining to children's issues. The CITG seeks to foster the exchange of information among members and to promote the development and application of human factors data and principles to improve children's HFE. Although most CITG members are also members of the Human Factors and Ergonomics Society, CITG membership may be obtained separately as well.

Joining CITG costs only \$5.00 USD/year. You do not have to be a member of HFES in order to be a member of CITG, though we encourage society membership. Additional information on the CITG can be obtained by contacting HFES.

Children's Issues TG during HFES 2020

Due to the coronavirus pandemic, this year HFES 64th International Annual Meeting will be virtual. Come to join us at a great virtual meeting experience!



TG Business Meeting, Wed, September 30, 5:30 pm ET
The Business Meeting this year will be held virtually the week prior to the conference, and not during the week's event. Meeting registration link:

<https://smithbucklin.zoom.us/meeting/register/tJApde-gqjlpHteHL7QPhjR9uWnP0lIRZC9>

This year CITG has one session during HFES 2020 and will count on:

Alternative format, Tue, October 6 at 11am ET
Identifying hazards at residential and commercial pools: An interactive session, by Leah Hartman & Stephanie Whetsel Borzendowski, Applied Building Sciences.

Lecture/ Parallel session included in Education 4 session, Thu, October 8 at 4pm ET
An Investigation of the Factors Predicting Participation in Social Media Challenges, by Amro Khasawneh¹, Shraddhaa Narasimha², Kapil Chalil Madathil², Heidi Zinzow², & Patrick Rosopa². Institutions (1) Johns Hopkins University, (2) Clemson University

Submit articles, comments, and relevant research references for our website and newsletter! Send your contributions to citg.hfes@gmail.com

NEWS

National Teen Driver Safety Week

Contrary to popular belief, teens crash most often because they are inexperienced. They struggle judging gaps in traffic, driving the right speed for conditions and turning safely, among other things. (NSC, InjuryFacts, 2018).

US Department of Transportation set National Teen Driver Safety Week for 2020. It is expected that during this week (and every week) parent should have conversations with their teens about how to stay safe behind the wheel of a motor vehicle.

It's necessary to talk about rules that address the greatest dangers for teen drivers: alcohol, inconsistent or no seat belt use, distracted and drowsy driving, speeding, and number of passengers.

Facts about Teen Driver Fatalities

- Motor vehicle crashes are the leading cause of death for teens (15-18 years old) in the United States, ahead of all other types of injury, disease, or violence.
- In 2017, there were 2,247 people killed in crashes involving a teen driver, of which 755 deaths were the teen driver - a 3% decrease from 2016.
- Parents can be the biggest influencers on teens' choices behind the wheel if they take the time to talk with their teens about some of the biggest driving risks.

You can check InjuryFacts, 2018 at <https://www.nsc.org/road-safety/safety-topics/teen-driving>

Read more about at US DoT website for this campaign at <https://www.trafficsafetymarketing.gov/get-materials/teen-safety/national-teen-driver-safety-week>.

***Mark your calendar...HFES Meeting in 2021
65th International Annual Meeting,
Baltimore Marriott Waterfront
Baltimore, Maryland, USA
October 4 - 8, 2021***

Mechanical Suffocation is the No. 1 Cause of Infant Death

According to NSC Injury Facts (2018) "Mechanical suffocation constituted the majority (80%) of all injury-related mortality cases for infants. Infants who die from mechanical suffocation lose the ability to breathe due to strangulation, or smothering by bed clothes, plastic bags or similar materials."

You can check more at the NSC website at <https://www.nsc.org/home-safety/safety-topics/child-safety/mechanical-suffocation-infants>.

At Safekids.org you can find some sleep safety and suffocation prevention tips. Check <https://safekids.org/tip/sleep-safety-and-suffocation-prevention-tips>.

Coronavirus and COVID-19: taking care of our children and teens

Since March 2020, the world is under a pandemic. Spread from Wuhan, China, the coronavirus got the world. Quarantine, face masks, cleaning, and disinfecting our homes are routines.

CDC (Centers for Disease Control and Prevention) broadcast information about symptoms, prevention, among other ways to deal with coronavirus since the beginning of this pandemic.

The website, that is frequently updated, bring some important information about:
* how to keep children healthy during the outbreak (<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/children/protect-children.html>), including guidance for parents to ensure children and young people's social, emotional, and mental well-being (<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/parental-resource-kit/index.html>);
* what to do when deciding going out and return to daily activities (<https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/going-out.html>);

These topics, among many others you can find at the links above or at CDC main site to COVID-19 <https://www.cdc.gov/coronavirus/2019-ncov/index.html>

In the next page you'll find a HFES flyer on related to COVID-19 and education in the home environment



HFES

Human Factors and Ergonomics Society

In response to the COVID-19 epidemic it is estimated that, worldwide, over 1 billion students of all ages are learning from home. In the U.S. and many other countries, classes are now being taught via new forms of remote technologies, which places unique constraints on the well-being of home-bound students. Instead of sitting in a classroom and viewing the teacher, students are now lying in bed or sitting on the floor and viewing a notebook computer or tablet screen.

The most significant ergonomic challenges of schooling from home stem from excessive “screen time”, lack of child-friendly workstation furniture, increased time spent indoors, a significant reduction in physical activity, and a general lack ergonomics guidelines specific to the remote schooling conditions.

To address this new norm of remote or virtual schooling, we developed a list of ergonomic recommendations for students to help reduce fatigue, pain and injury, and to increase attention and engagement. In addition, we recommend that students, parents and teachers work together to ensure the well-being of all those learning via remote classrooms.

Location: While it’s natural for students to choose the privacy of their bedroom, it’s important to find a spot in the house with the best combination of noise (minimal), lighting (low glare), comfort and support. We do not recommend schooling from the floor, bed or couch for more than a few minutes.

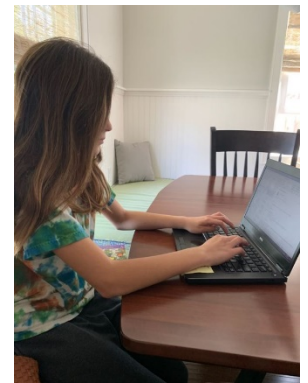
Type: The default workstation is one that we sit but recent research has shown profound advantages to standing workstations (when set up properly). Alternating between sitting and standing not only offers some ergonomics benefits but may also increase student attention and engagement. Such workstations are easy to create on kitchen islands, for example.

Variety: We encourage students to create multiple workstations throughout the house and to rotate between them throughout the day. One spot may be better for focused project work while another may be better for video meetings. We recommend creating at least one seated workstation and one standing workstation.

Setup/Configuration: Because computer work requires sustained postures, it is important to optimize them. This requires special attention to setting up the workstation(s) to fit the student. This can be achieved with some creative thinking and use of common household objects such as pillows, boxes, books, etc.

- Setup the height of your work surface so that the keyboard sits just below the seated (or standing) height of the elbow.
- If possible, raise your tablet or notebook computer screen to a position just below eye level and use an external keyboard and mouse for input. This prevents the common downward neck posture. The ideal setup eliminates slouching or leaning forward.
- Find or create a comfortable seat and use pillows, foam, and other objects for back support and extra height. Make or buy a footrest to support the feet and legs when the seat is raised.
- Don’t hold a tablet all day in your hands. Make or buy a stand.

Lighting: Make sure there is both proper lighting to view reading materials and little or no glare on the computer screen. It’s best to sit parallel to windows and don’t sit with a window directly behind the screen. Close curtains or shades as needed or use cardboard or sheets to block glare.



Vision: Virtual schooling dramatic changes how students use their vision. Students may now be staring at a computer screen all day during virtual classes, and again at night to complete their homework and chat with friends. One way to help alleviate the visual stress is the 20/20/20 rule: Every 20 minutes, take 20 seconds to look 20 feet away. Any change in activity that takes the student's eyes away from a screen are good. Some examples include puzzles, Legos™ or playing "I spy" for objects viewed from a window. Best are activities that allow your vision to change back and forth from near to far such as playing frisbee in the yard or driveway.

Hearing: Use headphones with a built-in microphone to avoid bending down towards the notebook computer or tablet to hear or speak. Make sure headphones fit properly and are not adjusted too loud. Set volume limiters, if needed. Limit total headphone time per day and allow for breaks. Purchasing **wireless headphones** will enable the student to move around the room and change postures with ease while still listening to the lecture.

Air Quality: Open windows as much as possible to let in fresh air and change all air filters for the HVAC system. Better yet, go outside if possible when school is not in session.

Breaks: Most important is the concept of frequent breaks for body movement. Watching a virtual lecture, whether sitting or standing, comfortable or not, is a stationary task. Students need to be in motion when not in class. Break activities should involve standing, movement of the legs, and viewing of three-dimensional objects (i.e., no screens). Avoid phones, gaming or TV during breaks. And, perform 1-minute stretches or exercises during any pauses in a lecture.

What Else Can You Do?

Students

1. Listen to your own body. It will tell you when your work setup is causing fatigue or discomfort. Make changes when necessary to maintain as neutral of a posture as possible and to support your body.
2. Prop up the screen to reduce excessive hunching. Try to look straight ahead, not down.
3. Use headphones to avoid leaning towards your speakers to hear, but don't turn up the volume too loud.
4. Use a separate webcam so that you can position the camera for ideal privacy and free your posture away from the limited view of the built-in laptop camera.
5. Take frequent breaks away from screens. Walk the hallways or stairs of your home during normal class transitions – between classes, lessons or activities and before/after school.
6. Balance the excessive amount of time indoors with short activities outdoors if possible. A simple walk is a great cure for sitting all day.
7. Resist the temptation to stay in pajamas and work from your bed. Adopt a routine that involves getting dressed, bathed and eating at normal times.

Parents

1. Take a picture of your child as they participate in virtual school. Show them the picture and discuss what you see. Suggest they can reciprocate by helping you evaluate your at-home work postures.
2. Help your child create comfortable work areas around the house. Be creative! Use pillows, laundry baskets, boxes, rolled up towels, etc.
3. Watch for signs of discomfort or injury: Is your child holding or rubbing their back or neck? Do they keep turning up their headphone volume? Has their academic performance changed?
4. Ergonomics is not a static activity. Don't set it up and forget it! Every few days check on your children and reassess their workstation setups and comfort.
5. Consider buying products that will free the posture of your children, such as wireless keyboards, mice and headphones, in addition to a separate (non built-in) webcam.

Teachers

1. Don't adopt the same approach and schedule to conduct virtual teaching as you did for in-person teaching. Remote schooling requires more frequent breaks and changes in posture.
2. Encourage a class activity where the students break into groups to solve some of these ergonomics challenges and share their solutions. Devote some class time every few days to talk about remote schooling ergonomics.

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