Global Research

Research, Content Creation and Implementation

70 Counties * and universities have partnered in various capacities and roles: content development, research procurement, and program implementation in local schools, districts and communities. Designated Professors serve as subject experts, promoting content highlighting country and region specific sports, fitness, health and adventure. Future Leaders have been identified and mentored from participating universities, tasked with research development and program implementation coordinating university/community/school involvement.

*Albania, Australia, Belgium, Brazil, Bulgaria, Canada, China, Croatia, Cyprus, Czech Republic, Germany, Greece, Hong-Kong-China, Hungary, India, Indonesia, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kosovo, Lithuania, Luxemburg, Macedonia, Malaysia, Mexico, Montenegro, Mozambique, New Zealand, Nigeria, Norway, Oman, Philippines, Poland, Portugal, Romania, Russia, Singapore, Saudi Arabia, Serbia, Slovakia, Slovenia, Saudi Arabia, Serbia, South Africa, South Korea, Spain, Sweden, Taiwan, The Netherlands, Turkey, USA, Uganda and the United Arab Emirates, Venezuela, Zimbabwe.

International Collaboration on the Effects of Brain-Breaks on Children's Attitude towards Physical Activity

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Project Aim

The ultimate goal of the project is the formulation of evidence-based policy and practice to reduce youth obesity. In order to achieve the goal, the project is designed as a series of studies exploring the effect of Brain Breaks on children's attitudes toward physical activity, including: (a) The development of a theoretical model on factors contributing to children's involvement in physical activity; (b) The identification of attitudes critical to children's involvement in physical activity from the literature; (c) The development of measurement scales for the attitudes; (d) The design of an experiment (with pilot testing) to test the effect of Brain Breaks on children's attitudes toward physical activity; (e) The design of teacher development programs for the use of Brain-Breaks at schools based on results of (d).

Project Experimental Design for Point (d)

The project makes use of pre-test/post-test experiment with comparison group to explore the effect of Brain Breaks on children's attitudes toward physical activity using HOPSports video exercises delivered via the internet. Each participating country recruits 200+ students from two classes in each grade 3-5. Student subjects do not have prior knowledge or familiarity with HOPSports Brain Breaks. Student data from other grades may be collected, but will not be included in the compiled international data. Countries without data from any one of the grades or less than 200 participants will not be included in the international study.

Before the experiment begins, participating countries prepare for the study including translation, sampling, printing and drafting pilot studies. The recruited classes from each grade are randomly allocated to the experimental or the control group. When a country is ready for the study, students in both experimental and the control groups are administered the attitude questionnaire, yielding the pre-test data. Intervention comprises the selection (and record) of HOPSports Brain Breaks; the administration of Brain Breaks for 5 minutes each day for any consecutive four month period between December 2015 and June 2016. After four months of Brain Breaks intervention, the attitude questionnaire will be administered and post-test data will be collected.

Both pre-test and post-test student data are collected using a survey with questions on grade level, gender, weight, height, BMI, motivation to do physical activity, perceived value of physical activity.

In addition to student data, teacher data will be collected. Each participating teacher completes: (1) one short survey at the beginning of study on students' age range of each grade level (Grades 3-5), expectation on students' motivation, and perceived value of physical activities, and (2) monthly response to a brief questionnaire with only 2 items on: Brain Breaks implementation , and specific usage.

Journal articles published from the project

- Mok, M. M. C., Chin, M. K., Chen, S., Emeljanovas, A., Meizine, B., Bronikowski, M., Laudanska-Krzeminska, I., Milanovic, I., Pasic, M., Balasekaran, G., Phua, K. W., & Makaza, D. (2015, in press). The psychometric properties of the Attitudes toward Physical Activity Scale: A Rasch analysis based on data from five locations. *Journal of Applied Measurement, 17*(1).

- Tumynaitė, L., Miežienė, B. Mok, M. M. C., Chin, M., Putriūtė, V., Rupainienė, V., Stankevičienė, G., Emeljanovas, A. (2014). Effects of intervention "HOPSPORT Brain Breaks" program on physical fitness and sedentary behavior in primary school. *Education, Physical Training, Sport (Baltic Journal of Sport and Health Sciences), 3*(94), 57-66.

Conference Presentations from the Project

- Emeljanovas, A., Miežienė, B., Tumynaite, L., Mok, M. M. C., & Chin, M. K. (2014, May). Effects of HOPSPORTS on-line-streaming Brain Breaks intervention program in primary school. Proceeding of 7th International Scientific Conference on Kinesiology, Fundamental and Applied Kinesiology – Steps Forwad, p.331, May 22-25, 2014, Opatija, Croatia.

- Mok, M. M. C., Chin, M., Chen, S., Novak, D., Podnar, H., Emeljanovas, A., Mieziene, B., Bronikowski, M., Grzesiak, J., Georgescu, L., Tudor, M., Milanovic, I., Pasic, M., Coetzee, D., Demirhan, G., & Saçliuzunçoz, F. (2015 Dec). Promotion of physical activities among school children: A seven-country study. Invited Presentation, Global Chinese Conference on Educational Information and Assessment cum Chinese Association of Psychological Testing 2015 Annual Conference (GCEIA 2015) (2015全球華人教育資訊與評估學術研討會暨中國測驗學會年會), 20 December 2015, National Taichung University of Education.

Journal Articles in Preparation/Under Review

- Emeljanovas, A., Mieziene, B., Mok, M. M. C., & Chin, M. K. (under revision). Effects of HOPSports on-line-streaming Brain Breaks primary school intervention program. *Educational Psychology: An International Journal of Experimental Educational Psychology* (ISSN: 0144-3410).

- Mok, M. M. C., Chin, M., Chen, S., Novak, D., Podnar, H., Emeljanovas, A., Mieziene, B., Bronikowski, M., Grzesiak, J., Georgescu, L., Tudor, M., Milanovic, I., Pasic, M., Coetzee, D., Demirhan, G., & Saçliuzunçoz, F. (in preparation). Promotion of physical activities among school children via online streaming video exercises: A seven-country study.

Additional Independent Research

Dario Novak, Ph.D, Doctoral Thesis, Department of General and Applied Kinesiology, University of Zagreb, Croatia, *Classroom-based Physical Activity, On-Task Behavior and Physical Activity Volume*.

1 Podnar, H., Novak, D. (2015). *Brain Break Classroom-Based Activities Result in Moderate-to Vigorous Intensity Physical Activity.* 4th International Conference on Physical Education and Sport Science (ICPESS), University of Negeri, Jakarta, Indonesia

2. Podnar, H., Novak, D. (2014). *Internal Consistency of Croatian Version of the Physical Activity Questionnaire* (PAQ-C). FIEP World Congress 2014, Sport Institute of Finland, Vierumaki, Finland

3. Podnar, H., Novak, D. (2013). *A Five-Minute Classroom-Based Active Break Increases Physical Activity and Energy Expenditure of Elementary School Students.* Book of Abstracts. The 6th Asia Pacific Conference on Exercise and Sports Science (APCESS 2013), Taipei, Taiwan, 2013.

Research indicates Brain Breaks as an effective class management tool, impacting positive behaviors by creating a receptive learning environment. Warmer and more engaged student/teacher interactions reported.

Prof. Arunas Emeljanovas. Lithuanian Sports University, *Effects of HOPSports On-Line-Streaming Brain Breaks Intervention Program in Primary School.*

Findings presented in Sofia, Bulgaria, Oct. 2014, at 9th European Congress and 7th International Scientific Congress; "Sport, Stress, Adaptation". Submitted for publication in Kinesiology Journal.

On-task behavior during academic lessons and daily in-school physical activity volume improved through implementation of classroom-based physical activity.

Prof. Marc Cloes. Department of Sport and Rehabilitation Sciences, University of Liege, Belgium.

Published in Science and Sports:

1. Cloes, S. & Cloes, M. (2014). Les "PAPS ". Un projet visant à augmenter l'activité physique scolaire des enfants dans l'enseignement primaire (A project to increase the school physical activity of children in primary education). Science & sports, 29, Hors-série 1, S53. Disponible sur Internet: http://hdl.handle.net/2268/174297 ou http://www.em-consulte.com/article/928672/presentation-d-un-projet-visant-a-augmenter-l-acti doi: 10.1016/j.scispo.2014.08.106
2. Cloes, S. & Cloes, M. (2014). Analyse qualitative d'un dispositif didactique visant à impliquer des élèves de primaire dans l'expression de leur besoin de mouvement. (Qualitative analysis of a didactic device for involving primary students in expressing their need for movement.) Science & sports, 29, Hors-série 1, S25. Disponible sur Internet: http://hdl.handle.net/2268/173603 ou http://www.sciencedirect.com/science/article/pii/S0765159714001889 doi: 10.1016/j.scispo.2014.08.050
3. Cloes, S., Cloes, A.-M., & Cloes, M. (2014). Analyse du comportement et des attitudes d'enfants de primaire impliqués dans des pauses d'activité physique scolaires (PAPS). Etude de cas (Behavior Analysis and primary attitudes of children involved in school physical activity breaks [PAPS] Case study). Science & sports, 29, Hors-série 1, S26. Disponible sur Internet: http://hdl.handle.net/2268/173602 ou http://www.sciencedirect.com/science/article/pii/S0765159714001890 doi: 10.1016/j.scispo.2014.08.05
4. Cloes, M. & Mornard, M. (2014). Analyse du point de vue des enseignants sur la mise en place de « Brain Break » dans l'enseignement primaire. Étude de cas (Analysis from the perspective of teachers on the implementation of "Brain Break" in primary education. Case study). Science & sports, 29, Hors-série 1, S25. Disponible sur Internet: http://hdl.handle.net/2268/174319 ou http://www.sciencedirect.com/science/article/pii/S0765159714001877 doi: 10.1016/j.scispo.2014.08.049
5. Cloes, M. & Mornard, M. (2014). Expérimentation des 'Brain Break' dans l'enseignement primaire Avis des élèves. (Testing of ' Brain Break' in primary education pupils Reviews) Science & sports, 29, Hors-série 1, P52. Disponible sur Internet: http://hdl.handle.net/2268/174320 ou

http://www.sciencedirect.com/science/article/pii/S0765159714002433 doi: 10.1016/j.scispo.2014.08.105

Physical activity breaks (Brain Breaks) determined to positively contribute to children's fundamental motor learning and social competency development.

Prof. Elena Dorofieiva. (2013). *Influence of Motive Activity on Psychological Health of Schoolchildren.*

Research findings indicate a positive trend of psycho-physiological status of children using HOPSports Brain Breaks, with a correlating improvement in student health. Additionally a beneficial impact on student perception of parent-child relationships was recorded.

Assoc.Prof. Govindasamy Balasekaran. Dept. of Physical Education and Sports Science, National Institute of Education, Nanyang Technological University

Data analysis is being completed from a 2011-2013 longitudinal study examining the physiological variables, BMI levels, and calorie expenditure of North Vista Primary School, Singapore, students using Brain Breaks routinely throughout the school day.

Future Leaders

Identification, solicitation and mentoring of 27 university-affiliated Future Leaders for the purposes of project and research development strategically linked to university/community/school participation. As the barometer of trends in deliverable wellness solutions globally, Future Leaders will utilize a collaborative approach to health and learning by promoting and incorporating regional perspectives and research within a larger global context.

Model Schools

The fostering of 25 model schools as showcased examples of best practices incorporating technology in health, PE, and character promoting learning. Supportive efforts through established partnerships and corporate sponsorship to deliver the latest, most effective and evidence-based programs, curriculum, trends and products. Research production combined with global demonstration site and sharing are key strategies of the designated model schools.

Examples include:

Fevzi Özbey Middle School, Çankaya district, Ankara, Turkey.

Cahit Zarifoğlu Elementary School, Etimesgut district, Ankara, Turkey.

Hacettepe University Faculty of Sport Sciences. In collaboration with the Ministry of Education and Ankara District, Hacettepe University has partnered with these two schools, provided student-intern placement and support and sponsorship of school-based sports activities and development of model PE and health programs. 12 people identified from various universities and from the Ministry of Education are tasked with preparing lesson plans related to using technology, socioecological model, pedagogical content knowledge and technological content knowledge. Teachers (PE and Core

Classroom) will participate in professional development and in-service training. The schools will be a highlighted destination during the GOFPEP May, 2016, Conference drawing 123 invited delegates from 117 universities and institutions representing 67 countries/regions.

Global Conferences

1st World Congress of Future Leaders, 2018: "*Global Promotion of Physical Activity and Holistic Health for Children and Community through Integrated Sports Science, Medicine and Technology"*. Founder. Sponsor. Organizing Committee. Keynote.

Global Forum for Physical Education Pedagogy (GOFPEP) May, 2016, Hacettepe University, Ankara, Turkey: "*Technology, Networking and Best* Practice in Physical Education and Health: *Local to Global*". Sponsor. Organizing Committee. Keynote.

Global Chinese Conference on Educational Information and Assessment, Dec., 2015, Taichung National University of Education, Taiwan. Research paper presentation.

Southern Obesity Summit, Jackson, Mississippi, USA, Nov., 2015. "*Most Effective Coordinated School Health Model delivering "Whole School, Whole Community, Whole Child"*. Panel Discussion.

Russian State University of Physical Education, Sport, Youth and Tourism (SCOLIPE), Nov., 2015. *"Global Perspectives in New Direction of Physical Activity & Health: The Role and Application of Interactive Technology"*. Keynote.

Conference Moscow State University of Psychology and Education. Presenter. Lecture at the Federal Centre of Child and Youth Tourism and Regional Studies, Moscow, Nov. 2015.

VII International Scientific Congress "Sport, People and Health", Oct., 2015, St. Petersburg, Russia. Keynote.

BRICS: Council of Exercise and Sports Science. Founder.

6th International Conference on Nutrition and Physical Activity (NAPA), Oct., 2015, Taiwan. Advisory Council.

4th International Conference on Physical Education and Sports Science (ICPESS), May, 2015, Universitas Negeri Jakarta, Jakarta, Indonesia. Invited Speaker.