
KT Summary Template

Monitoring Activities of Teenagers to Comprehend their Habits (MATCH) Study, 2018

Mathieu Bélanger^{1,2,3} Catherine Sabiston⁴ Jennifer O'Loughlin⁵ Jennifer Brunet⁶ Robert Vallerand⁷

1 Faculty of medicine and health sciences, Department of Family Medicine, Université de Sherbrooke

2 Centre de formation médicale du Nouveau-Brunswick

3 Vitalité Health Network

4 Faculty of Kinesiology, University of Toronto

5 CRCHUM, Université de Montréal

6 University of Ottawa

7 Université du Québec à Montréal

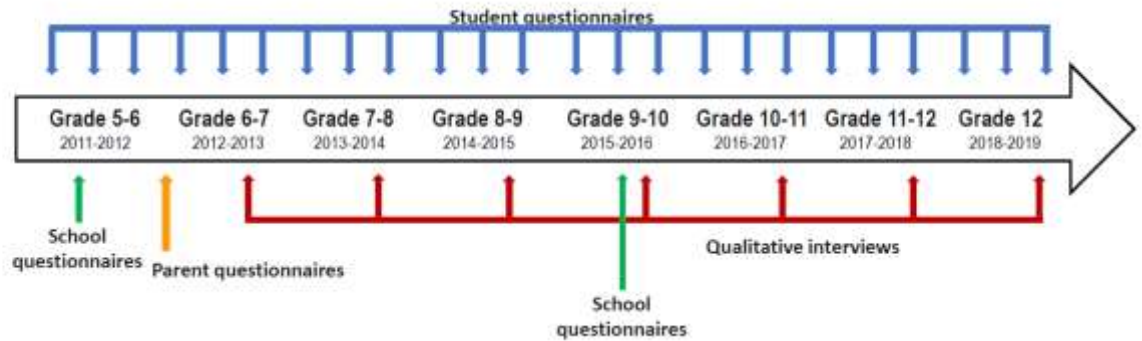
Project Summary

The “*Monitoring Activities of Teenagers to Comprehend their Habits*” (MATCH) study aims at generating a better understanding of how sport and physical activity participation evolve during childhood and adolescence. MATCH is unique given it collects more detailed information than other studies and does so on a greater frequency on a long period of time. 937 students completed self-report questionnaires every four months from grade 5 or 6 until the end of grade 12. The frequent follow-ups enabled characterising behaviours during this period of important changes and development. Although many analyses are still in preparation, results to date have identified predictors of participation in different types of sports at the level of the individual (i.e., personal attributes, psychological characteristics), the social environment (i.e., behaviours of peers, support from parents), and the physical environment (i.e., rurality, access to infrastructure). MATCH data also indicate that participation in different types of sports is differentially associated with different outcomes, including quality of life, psychological wellbeing, and future participation in sports.

Research methods

937 students were recruited from Grade 5 or 6 classes in 17 schools in New Brunswick. Participants completed self-report questionnaires every four months until the end of grade 12 (up to 24 survey cycles). MATCH also had a sub-sample of 23 adolescents who took part in individual interviews annually. Parents (or guardians) of students took part in a telephone-administered questionnaire in the first year of the study. Finally, a school environment assessment was conducted for every school in collaboration with school representatives at two different times (figure 1).

Figure 1.
MATCH study timeline



Research results

Some key findings include:

- Children who take part in a wide variety of sports are more likely to pursue participation in physical activity as they become adolescents. In contrast, children who specialize into a sport are at greater risk of dropping out of sports when they get older. (Gallant, F., O'Loughlin, J., Brunet, J., Sabiston, C., Bélanger, M. 2017. *Pediatrics*)

- Both recreational and performance sport participation profiles in childhood and early adolescence are positively associated with positive mental health in late adolescence. (Isabelle Doré, Catherine Sabiston, Marie-Pierre Sylvestre, Jennifer Brunet, Jennifer O'Loughlin, Patrick Abi Nader, François Gallant, Mathieu Bélanger – Under Review)

- Youth with at least one parent who participates in interdependent sports are more likely to maintain participation in interdependent sports. Youth's sustained participation in coactive/independent sports was not associated with parents' participation in coactive/independent sports. (Brunet, J., Gaudet, J., Wing, E., Bélanger, M. 2017. *Journal of Sport and Health Science*)

- MATCH clarified that spending time outdoors is beneficial to mental health because it represents a venue for participation in physical activity. Hence, the mental health benefits associated with outdoor time appear largely attributable to physical activity. (Mathieu Bélanger, François Gallant, Patrick Abi Nader, Jennifer O'Loughlin, Catherine Sabiston, Isabelle Doré, Katie Gunnell, Richard Larouche, Marie-Pierre Sylvestre – Under Review)

- The occurrence of life stresses often results in increases in levels of participation in unorganized sports, suggesting that these activities represent a solution to deal with adversities such as breakups, grievance and low parental support. (Patrick Abi Nader, Stéphanie Ward, Sherif Eltonsy, Mathieu Bélanger – Under Review)

-Children who report taking part in physical activity because they enjoy it, typically take part in more organized physical activity. Children who want to be active to improve their skills often take part in group-based physical activity and are more likely to attain the recommended levels of physical activity every day. (Goguen, J., Bélanger, M., Xhignesse, M., Ward, S., Sabiston, C., O'Loughlin, J. 2015. *International Journal of Sport and Exercise Psychology*)

-There are internal (ex: "I am not interested in physical activity") and external barriers (ex: "I do not have the equipment I need") to physical activity but only internal barriers are susceptible to keep youth away from physical activity. (Gunnell, K.E., Brunet, J., Wing, E.K., Bélanger. 2015. *Pediatric Exercise Science*)

-Although MATCH researchers found that proximity of PA infrastructures like parks, trails or gyms did not appear to affect maintenance of physical activity, they found that active commuting environments helped girls and boys be more active. (MacKenzie, J., Brunet, J., Boudreau, J., Iancu, H.D., Bélanger, M. 2015. *Preventive Medicine Reports*; Ward, S., Bélanger, M., Goguen-Carpenter, J., Caissie, I., Vanasse, A., Donovan, D. 2015. *Journal of School Health*)

-There are theories suggesting that humans need to be satisfied to live a happy life. For example, the theory says that one needs to have positive social interactions during physical activity as well as positive feelings of competence and finally, feelings of autonomy such as being able to do what you want when you want to. MATCH researchers found that the more these needs were satisfied over time, the more active people were. Also, when physical activity increases as a result of better satisfaction of these psychological needs, we found that quality of life improves. And that is whether we think of quality of life from a physical or a social perspective. (Gunnell, K. E., Brunet, J., & Bélanger, M. 2016. *Health Psychology*)

; Gunnell, K. E., Brunet, J., Sabiston, C. M., Bélanger, M. 2016. *Journal of Sport & Exercise Psychology*; Brunet J., Gunnell, K. E., Teixeira, P., Sabiston, C. M., Bélanger, M. 2016. *Journal of Sport & Exercise Psychology*.)

- Perceived tangible parental support was positively associated with self-efficacy and enjoyment of physical activity, and perceived intangible parental support was positively associated with enjoyment of physical activity. Self-efficacy beliefs and enjoyment of physical activity were positively associated with participation in physical activity in- and out-of-school. (Wing, E.K., Bélanger, M., Brunet, J. 2016. *American Journal of Health Behavior*)

- Participation in organized sports declines faster among individuals that are the youngest of their age cohort (i.e., born at the end of the year). Such a Relative Age Effect was not apparent for unorganized sports. (Kristy L. Smith, Laura Chittle, Jess C. Dixon, Sean Horton, Mathieu Bélanger, & Patricia L. Weir – *Under Review*)

Policy implications

Given the finding that children who do not participate in sports during childhood are at very elevated risk of not participating in sports later on, strategies are needed to find ways to involve all children in developmentally appropriate sporting activities. These could include after school programs and non-competitive sports.

People working with children in sports should understand that involvement in sport sampling during childhood is preferable than sport specializing given it reduces the risk of dropping out of sport.

Since we found that youth often appear to turn to unorganized sport participation as a mechanism to deal with life stresses, more societal efforts should be implemented to facilitate youth participation in unorganized sports. Only about 1/3 of Canadian youth participate in unorganized sports regularly, such that many may be missing out on the benefits associated with these. Additionally, as 3/4 of Canadian youth participate in organized sports, it may be beneficial to equip sport programs with the skills required to assist youth dealing with life stresses.

Recognizing the importance attributed by children to enjoyment motives, sport practitioners, schools and communities hoping to increase participation in organized sports should aim at making their activities interesting, fun, and stimulating.

To increase participation in group-based sports, interventions may need to incorporate consideration of competence motives by reinforcing skill development and enhanced performance and offering realistic and attainable challenges through sport participation opportunities.

To increase satisfaction of psychological needs (i.e. Competence, relatedness and autonomy) which in turn can increase MVPA among youth, Schools and Sport organizations should: 1- Provide opportunities for youth to practice new skills with the help of a sport professional and encourage them to keep practicing these skills in order to become more at ease and feel more confident (competence), 2- Allow students to choose activities according to their interests. This will group together youth with similar objectives and facilitate development of relationships (relatedness), and 3- Offer opportunities for youth to choose the activity in which they want to engage without questioning their motives or trying to control the outcomes.

School environment were strongly related to sport participation, and most specifically to participation in organised sports. Schools and school boards could work together to implement active commuting programs, such as “Walking school bus” programs, active transportation days, and modify policies or create infrastructures that promote active commuting to school, such as allowing skateboards on school premises, offering bike racks, and ensuring that crossing guards are present at pedestrian crossings.

Parents' sport participation may have an influence on types of activities practiced by youth, especially for activities that are relatively less popular among youth. Communities and sport organizations should offer more opportunities for parents to be active such as adult sports teams and walking/running/biking clubs as a strategy for increasing sport participation in youth.

Internal barriers to sports appear to have a larger influence on MVPA than external barriers: Programs aimed at increasing sport participation in youth should be discussed with youth, and their barriers, specifically their internal barriers should be taken into consideration prior to implementation.

Next steps

MATCH is an observational study. It provides us with a great infrastructure to better understand what influences participation in sports and in physical activity. It is now time to develop and test interventions to address the issues of low and declining levels of participation in sports and physical activity. As indicated by our findings, determinants of sport and physical activity participation are complex and multifaceted. Therefore, interventions will need to consider multiple angles and adhere to the notion that effective solutions will not be simple.

Key stakeholders and benefits

Information emanating from the MATCH study is relevant for a wide variety of potential knowledge users, including:

- Provincial and national sport organizations
 - Sport and physical activity promoting groups (Sport Canada; ParticipACTION; Sport for Life; Active Healthy Kids Canada; Physical and Health Education Canada; ...)
 - Provincial departments responsible for: 1) sport, 2) healthy living, 3) education, 4) childhood development
 - Canadian School Boards Association (and its members)
 - Public Health Agency of Canada
 - ...
-

This document will be electronically archived at, and disseminated in whole or in part, by the Sport Information Resource Centre (SIRC) and Sport Canada.