MATCH: Spotlight on a Canadian Study on Sport Participation

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In this day and age, everything is at our fingertips. However, the investigation of complex behaviours is still a process that takes time. The intricate nature of sport and physical activity behaviour, especially amongst children and adolescents, is an area that many Canadian policy makers, administrators and other sport system stakeholders are trying to better understand, whether to influence health outcomes or

bolster club registration. Longitudinal research plays an important role in understanding the factors that influence these changes to inform policy and practice and provoke behavioural change.

Large cross-sectional studies like the Health Behaviour in School-Aged Children (HBSC) study and the Canadian Health Measures Survey (Carson, Tremblay, Chaput, & Chastin, 2016; Haug, Torsheim, & Samdal, 2008) provide representative snap shots of the level of sport and physical activity participation for a population. This kind of research can measure many variables and compare different groups within a large population at a single point in time. However, they lack the ability to establish sequences of events.

In contrast, longitudinal studies allow us to observe behavioural changes and identify various patterns over time, in this case relating to sport and physical activity participation. They provide unique insight on how behaviours are affected by lifetime transitions such as changing schools, puberty and changes in

social circles. Because longitudinal studies follow the same individuals over time, they are able to detect developments at both the group and individual level, as well as identify factors and outcomes linked to different sport and physical activity participation patterns. For example, children can be highly active for a few years and then suddenly drop-out as adolescents. Longitudinal studies enable us to precisely know when dropouts occur as well as explore why. Understanding what influences sport and physical activity behaviours supports the development of programming tailored to the needs of each community, school or sport club.

WHAT IS THE MATCH STUDY?

The Monitoring Activities of Teenagers to Comprehend their Habits (MATCH) study is unique in the world (Bélanger et al., 2013). It followed nearly 1,000 children for eight years, from ages 10 to 17. Participants completed questionnaires administered three times per year about their level of participation in specific sports and physical activities, associated motives, and key influences including screen time, sleep, barriers to participation, and life events.

MATCH recently completed its 24th and final survey cycle in June 2019. Since 2011, it has provided a

foundation for insight into the determinants of sport and physical activity participation as well as factors that influence these behaviours. To date, MATCH results were the subject of six graduate student theses, 20 published or under review manuscripts, and 60 presentations at academic conferences. Analyses are still ongoing, but some of the key findings areas are summarized below:

SPORT AND PHYSICAL ACTIVITY PARTICIPATION FROM CHILDHOOD TO LATE ADOLESCENCE

Côté's Developmental Model of Sport Participation states that children as young as 10 years old can be categorized in three different sport participation profiles:

- sport samplers (playing many different sports in a year),
- sport specializers (focus on one sport throughout the year), and
- non-participants (not playing sports).

MATCH data has strengthened this model by developing operational definitions of sport participation profiles to allow documentation of the natural course of participants within these profiles from the age of 10 to 15 (Gallant, O'Loughlin, Brunet, Sabiston, & Bélanger, 2017). The results show that children who did not participate in sport

before the age of 12 are almost 3 times more likely to be non-participants in sports later in adolescence. Also, children who participated in a wide variety of sports before the age of 12 (sport samplers) were more likely to pursue sport participation in their adolescent years. In contrast, those who specialized in one sport were at greater risk of dropping out of sport later on. These results are in line with growing evidence on the value of multi-sport participation for sustained physical activity practices, underscoring the pressing need for parents, coaches and other youth sport leaders to encourage participation in a variety of sports and physical activities. The evidence also support recent initiatives and programs promoting a multisport approach, such as the Play More Sports initiative.

Additionally, early analyses of MATCH data revealed that the order of importance of motives for taking part in sport and physical activity among study participants are as follows (Goguen Carpenter et al., 2017).

- Enjoyment (inherent interest value of the activity itself),
- Fitness/health (being active out of the desire to be healthy and strong),
- Competence/challenge (to improve at an activity, to meet a challenge, or to acquire new skills),

- Social affiliation (to be with friends and meet new people), and
- Appearance (being active in order to become more physically attractive, develop muscles, or control weight). However, further analyses of MATCH data found that although enjoyment motives positively influence girls' sport participation during childhood, it was not linked to the maintenance of sport participation into adolescence. In contrast, competence motives positively influence girls' sport participation throughout childhood and adolescence. Among boys, fitness motives negatively influenced sport participation during childhood and adolescence, whereas enjoyment motives positively influenced their sport participation from childhood to adolescence (Abi Nader et al. paper under review). These findings confirm the importance of tailoring programs to retain specific population groups in sport. In particular, MATCH results suggest that coaches, teachers and program developers should prioritize making activities fun and stimulating, providing skill development opportunities, and offering realistic and attainable challenges.

INFLUENCE OF SOCIAL AND PHYSICAL ENVIRONMENTS ON PARTICIPATION

MATCH researchers found that active commuting environments (presence of sidewalks, bike racks, crossing guards, etc.) helped children be more active (Ward et al., 2015). This is consistent with another MATCH analysis, which documented that teenagers who commute actively to school (walking, biking, skateboarding, etc.) or commute using mixed methods (active and motorized transport) report higher physical activity levels than teenagers who get to school inactively (Larouche, Gunnell, & Bélanger, 2018). However, this same study revealed that actively commuting to school is affected by the seasons, with active commuting decreasing during the colder months. Initiatives such as a “Winter walk or bike to school week” aiming to increase active transportation during winter months would be beneficial in maintaining physical activity levels among teenagers.

With regards to the social environment, MATCH data indicates that when parents support and facilitate adolescents’ participation by registering them in sports, driving them to practices and encouraging them verbally, adolescents are more likely to enjoy physical activity (Wing, Bélanger, & Brunet, 2016). Other MATCH analyses also demonstrated that

youth with at least one parent who participates in group-based sports are more likely to maintain long-term participation in group-based sports (Brunet, Gaudet, Wing, & Bélanger, 2017). Interestingly, teenagers' sustained participation in individual-based sports was not associated with parents' sport participation.

BARRIERS TO PARTICIPATION

Dropping out of sports and physical activities is an unfortunate characteristic of adolescence for most people. This period is also marked by emergence of life stressors. MATCH findings revealed that the occurrence of life stressors often results in increases in levels of participation in unorganized sports and physical activities (home exercises, skipping rope, trampoline), suggesting that these activities may represent a coping strategy to deal with experiences such as breakups, grievance and low parental support. (Abi Nader, Ward, Eltonsy, & Bélanger, 2018). Given only about 1/3 of Canadian youth participate in unorganized sport regularly, many may be missing out on what appears to be a mechanism to deal with life stress (Barnes et al., 2016).

MENTAL HEALTH BENEFITS OF PARTICIPATION

MATCH researchers found that at least two years of participation in sport sampling before the age of 12 is associated with better self-reported mental health during adolescence, and that those who did not participate in sport were less likely to experience positive mental health (Doré et al., 2019). Furthermore, participation in both recreational and performance sport during childhood and adolescence is positively associated with positive mental health in late adolescence. On a related topic, MATCH data helped clarify that spending time outdoors is beneficial to mental health because it represents a venue for participation in physical activity. Therefore, the mental health benefits associated with outdoor time appear largely attributable to physical activity (Bélanger et al. paper under review).

Aristotle said “Happiness is the meaning and the purpose of life, the whole aim and end of human existence”. Psychological theories suggest that humans need to satisfy psychological needs to live a happy life. Specifically, the Self-Determination Theory states that in order to be happy one needs to have positive social interactions as well as positive feelings of competence and finally, feelings of autonomy such as being able to do what you want when you want (Deci & Ryan, 2000). Results from the MATCH study support this by demonstrating that the more adolescents reported having positive social interactions during sports and physical activity as well as positive feelings of competence and autonomy, the more they were to be active. Furthermore, when physical activity increases as a result of better satisfaction of these psychological needs, quality of life improves (Brunet, Gunnell, Teixeira, Sabiston, & Bélanger, 2016; Gunnell, Bélanger, & Brunet, 2016; Gunnell, Brunet, Sabiston, & Bélanger, 2016).

HOW CAN RESEARCH HELP INFORM POLICY AND PRACTICE?

Longitudinal studies such as MATCH are uniquely designed to document long-term patterns of sport and physical activity participation. Understanding the correlations between childhood participation patterns and those in adolescence, and the impact of life

transitions and stressors on participation, can inform policies and programs aimed at increasing and maintaining participation in sport. These range from promotion of a multisport approach in childhood sport programming, to promoting unorganized sport and physical activity as a way for adolescents to manage stress, to program design based on skill development in fun, social environments. Government departments, education institutions, parent groups, sport and physical activity organizations, and communities can all be potential users of the findings.

WHAT'S NEXT FOR MATCH?

Although the MATCH study completed its last survey cycle in June 2019, analysis of the data collected over the last eight years has only just begun. Completed theses, manuscripts and presentations have only scratched the surface of what the MATCH data can help us discover about the intricacies of sport and physical activity participation. This fall, MATCH is hosting a workshop event entitled: "How do we win the MATCH?" where MATCH researchers will meet with key partners and knowledge mobilizers. This event will serve as a springboard for the mobilization of MATCH findings as well as planning future sport and physical activity research.

RESOURCES

For more information about the MATCH project, visit our website or check out these two videos – one explaining the MATCH project, the other highlighting MATCH results.