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Development and management of outdoor recreation: The case of Quebec

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Abstract

Outdoor recreation is at the heart of several policies and measures with their goal being to reinforce the level of individuals' physical activity as well as the development of communities. This is even truer in Quebec where the provincial government recently published (2017) an important note regarding the importance of outdoor recreation in the development of Quebec society. In this perspective, this study, using a quantitative approach through a survey, aims to analyze how outdoor recreation is managed and supported by the Regional County Municipalities (RCM), key actors in the territorial and social development in Quebec, and, to identify the terms and conditions for the practice of these outdoor activities in the RCMs. This study shows that there is no gap between supply and demand. However, the results reveal the importance of supporting and subsidizing promoters and outdoor organizations in Quebec while breaking into segments the pool of practitioners in order to put in place targeted communication and promotion strategies while also promoting the use of new technological information.

Keywords: Outdoor recreation, governance, promotion, practitioners, Quebec

1. Introduction

More generally, and within the framework of the many policies and measures aimed at enhancing individuals' physical activity, the issue of outdoor recreation practiced in wild or urban areas has become increasingly central for the health and well-being of people. As Branget et al. (2018) mention, having an interest in outdoor recreation, its management and practices which are already in place require an in-depth understanding of a person's

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relationship to nature. Branget et al. (2018) show that individual-group systems, as well as institutional and spatial developments play a decisive role in the human-nature relationship (2018, p. 112). For these authors as well as for Larue and Bélec (2016), this relationship differs, evolves or even transforms according to different individual factors (heritage cultural, socio-economic profile, etc.) but also in related contexts (public policies in place, advanced technologies, etc.). Krieger et al. (2017) add that there is a relative paradox with regard to what is happening or what outdoor recreation is, in this case, a desire expressed, more or less, by practitioners to get closer to nature and the opposite, managers' willingness to develop and make more accessible these places of practice. This paradoxical situation requires a greater degree of management and ability to protect natural heritage which is the epicentre of what is and what outdoor recreations stands for (Branget *et al.*, 2018; Krieger *et al.*, 2017).

Before presenting the research objectives, it is important to remember on which definition of outdoor recreation we are basing the study. The one being used is, in fact, the one put forth by the Ministry of Education and Higher Education in Quebec in its most recent publication on outdoor recreation following a lengthy consultation with scientific experts (MEES, 2017). This is the definition: by outdoor activity, we mean a physical activity which is practiced in an open area, in a dynamic and harmonious context with nature. Therefore, the outdoor activity is usually recreational in nature and practiced freely. Consequently, an outdoor activity implies movement, excluding, however, the use of motorized vehicles. It is done in a state of mind of discovery, exploration or adventure. Finally, it includes various forms of urban practice, for example, in large parks as well as wilderness areas.

It is also important to indicate that this study is based mainly on the study of outdoor territories located in regional county municipalities (RCM) in Quebec. These RCMs are key players in Quebec when one is interested in the development of territories and natural areas. As such, there are 98 RCMs in Quebec and each one groups all the municipalities of their territory in which it intervenes and forms an administrative entity recognized by the municipal organization law of Quebec. Each RCM has the responsibility of developing its territory by adopting and revising its development plan where the problem of outdoor recreation is present, and it may also delegate and support the management of certain areas in nature. For these varying reasons, the RCMs are key actors in the management and development of outdoor recreation.

This study is based on two main research objectives: 1) Identify the planning, management and outdoor support methods² put in place by the Quebec RCMs and, more specifically, by the planner working with these organizations and 2) Analyze the development, marketing and communication strategies developed by the planners working with the Quebec RCMs, in order to promote the practice of outdoor recreation in their territories. Complementarily, a main research question was formulated from the beginning, namely: How is the outdoor managed and supported by the Quebec RCMs and how are these development actions aligned with the needs, realities and expectations of some outdoor practitioners?

² We can define the notion of outdoor support methods as a set of processes, techniques, tools and strategies that park managers can use in order to enhance and promote the quality of their natural parks.

2. Literature review

2.1. Governance and management in the field of outdoor recreation

Governance refers to a method that enables a partnership between the public, associative and/or private actors in order to be able to deal with the affairs of the public sphere (Garneau, 2017). Partnership governance allows for the co-management of public affairs by all stakeholders involved in a problem.

With regard to nature parks, partnership governance allows the management of conciliation between two opposing objectives: the conservation of nature and access to natural amenities for recreational purposes. According to Rôhring and Gailing (2005, cited in Absher & Mann, 2010), there are three types of institutions related to conservation areas: those who wish to use the space, those who wish to protect the ecology and components, and those who combine the two. Governance, along with its objectives of public participation, consensus decision-making, strategic vision, listening to stakeholders' concerns, efficiency and effectiveness, accountability, transparency, equity and an equal application of laws and regulations (Eagles, 2009), allows the development of sustainable management of large parks.

Eagles (2009) classifies the governance models of natural parks according to their achievement of good governance objectives. This author's study compares the eight most commonly identified models in the United States with regard to park governance, including ownership and resource management. His conclusions are that the models that most respect the principles of good governance are those that imply that the resource is owned by a public or non-profit organization and that part of the management is provided by a non-profit organization. This conclusion is particularly relevant to this article since we discuss the question of regional parks owned and managed by RCMs, a type of public organization.

Management models are also important in order to create and manage natural parks efficiently. According to Spenceley et al. (2019), two types of approaches exist for the management of protected areas: insourcing and outsourcing. In the case of outsourcing, the responsibility for managing the natural amenities can be entrusted to a wide range of organizations: private companies, non-profit organizations, community organizations, another local or territorial government or a joint-venture company (Spenceley et al., 2019). Of course, as the same authors mention, the legislative framework of upper levels of government might narrow this range of possible options.

Planning and development strategies also impact the quality and diversity of services provided to park visitors. Such strategies include visitor activity monitoring (Pickering et al., 2018), visitors' satisfaction evaluation (Tarrant & Smith, 2002), assessment of natural amenities potential and carrying capacity (Newsome, 2014), identifying users' preferences (Moyle et al., 2017), building new partnerships with potential stakeholders and adding new features suited for the demand. Features include facilities and programs that might be added to any of the major geographic areas of a park, which are activity areas, supporting areas, overall park and surrounding neighbourhood (Bedimo-Rung et al., 2005).

2.2 Marketing and communication in the field of outdoor recreation

From a perspective which focuses more on marketing and communication, there are several interesting studies to be mentioned in this literature review. First, Absher and

Mann (2010) emphasize the importance of developing two-way communication with target audiences, especially for the development of outdoor physical activity. These authors mention that this communication is essential in order to identify the values and norms of target audiences, as well as potential conflicts between user groups. These communication strategies are also important for knowing the favourite activities of target audiences and developing them appropriately. Žugić et al. (2015) also reiterate the importance of this bidirectional communication with the target clientele in order to create their profile and to better meet their expectations.

Other studies outline the planning of various public events and other activities in order to increase the visibility and attractiveness of various outdoor spaces. As such, Besenyi et al.'s (2015) study (Park Hop program), evaluates the effectiveness of a program to promote parks in their region and states that community members often have very limited knowledge of the resources available to them for physical activity. They also argue that a better knowledge of these resources can have a positive influence on their level of physical activity. The study reports that participants visited many parks for the first time since joining Park Hop. The authors attribute the success of this program to the funding, an efficient fundraising campaign (Web sites, press conference, participant registration, closing ceremony, prizes), its “treasure hunt style” and the voluntary participation of park owners and other institutions who felt compelled to participate. The funds and time invested by the staff of these partners are cited as having greatly contributed to the results of the program.

The organization of major, high-level competitive events can also lead members of a community to become aware of the equipment available for their physical activities. However, Newsome (2014) warns park managers about these events as they may also affect the conservation purpose of these areas.

Complementarily, a recent report by the endowed Transat Chair (2015) on the marketing of cycle tourism destinations identifies best practices in this area by evaluating initiatives from a few countries in North America, Europe and Oceania. Although it deals with a bicycle tour, marketing strategies can inspire initiatives to promote other types of physical and outdoor activities. Here are some of the strategies listed in the Transat Chair document that we believe are the most relevant the purpose of this study:

- Structuring the offer: this consists of supervising the practice by suggesting itineraries and activities, offering package deals and installing the necessary infrastructures;
- Regional cooperation: partnerships between multiple organizations to create a regional image and develop a concerted offer of activities in a particular region;
- Packages and themes: develop and offer packages to visitors, with themes or not;
- Distribution network: use of travel intermediaries to promote and sell thematic packages;
- Marketing content: thematic advertising campaign around the offer or event, often with an interactive component with the public and social networks, sometimes also in the form of a game;
- Planning tool and interactive site: technology-assisted tool (online) to plan outdoor activities (sometimes tricky process for the uninitiated);
- Training: offer joint training to all promoters in the area to better tailor the offer to customers and make activities safe and attractive;

- Innovation: innovation or a coordinated set of innovations to facilitate access to outdoor activities, particularly by public transit (e.g., bicycle racks on commuter trains and buses).

Concomitantly, the evaluation study of recreational tourism potential is often mentioned in the literature in order to better understand the capacity of a natural park by considering its capacity for regeneration. This type of assessment allows park managers to tailor the offer and events they organize in their parks, thus taking into account the parks' abilities to accommodate visitors without compromising their conservation role. Therefore, Newsome (2014) states that it is an essential tool for reconciling the main objectives of a natural park: conservation and universal access to nature. This type of documentation can be used by managers to develop activities in a sustainable way. This document may also be used to encourage potential promoters to invest in a park or hold their events. In addition, from a marketing perspective, it may be used to demonstrate responsible management.

Information and communication technologies can also be used to assist actors wishing to develop new infrastructures for outdoor physical activities, as Tomczyk and Ewertowski's (2013) study showed. Using a research-action approach, these authors explain how they used a geographic information system (GIS) to optimize the layout of new walking trails in a park by avoiding areas with a higher risk of erosion. Thus, the GIS has been used to systematize the process of tracing new trails, allowing for a detailed analysis of large amounts of information on the targeted parks' soils. Technology, in this case, has been used to increase the staff's analytical capacity who has been assigned to the new trails. However, the use of technology does not stop there. Another study mentions the use of infrared readers to evaluate traffic on the trails (Reigner *et al.*, 2012). This method allows the estimation of the use of the trails without having a research team onsite, which reduces costs for such an evaluation.

Finally, technologies are an efficient means of communication with actual and potential clients who visit a nature park. The evaluation study of the Park Hop programme by Besenyi *et al.* (2015) mentions the role that the Internet plays in the promotional campaign of the program. This site collected the names and email addresses of program participants. The addresses were then used to remain in constant communication with them. A mobile app, having the same role as the Internet site, was also created in order to reach another segment of the population. The Internet, as well as the mobile app, seem to play a complementary role to traditional media in order to reach the population and may be used as promotional tools to encourage participation in outdoor recreation and physical activities. Information and communication technologies can, therefore, act as a tool both for the development of new infrastructures and activities and for the tailoring of existing infrastructure and activity opportunities according to the enthusiasts' needs.

3. Methods

The collection of data was conducted in the fall of 2017. This stage used a quantitative approach with a survey questionnaire that was conducted online via the 'SurveyMonkey' platform. This questionnaire was developed mainly from discussions within the research team as well as from the literature review conducted regarding the issue investigated. The questionnaire consisted of seven themes, beyond questions related to the inclusion criteria of the study:

- 1) Types of trails and outdoor sites present in the RCM territories that were surveyed and types of outdoor activities offered on these trails and sites;
- 2) Methods of financing and managing the outdoor RCM sites;
- 3) Methods and tools for planning, development and promotion used by the RCMs to manage their trails and outdoor sites;
- 4) Presence or absence of regional parks in the RCM territories and how they are managed;
- 5) Types or possible inspired practices put in place by the RCM managers and their teams;
- 6) Sociodemographic profile of the respondents of this survey;
- 7) Final question in order to obtain general comments about the survey.

The respondents were asked a total of 34 questions. Nine questions were open, which allowed the respondents to express certain ideas and suggestions. Besides these open questions, the respondents could, for certain questions, propose a different answer than those that were suggested by choosing 'Other'. The total time to answer the survey was approximately 25 minutes. It is important to note that each respondent could save his/her answers as often as he wished before sending it in.

This questionnaire was sent by email to a planner in each of the RCMs in Quebec (n = 98). As such, the research team agreed that the manager was the most likely person to respond to the survey because of their role and actions they take on a daily basis. Data collection was done between September 21 and October 20, 2017. A reminder was sent to all respondents October 10, 2017. Analysis of the data was done using Excel and SPSS software in order to obtain descriptive and inferential statistics. It is important to note, however, that these inferential analyses proved to be limited due to the relatively small sample size (n = 65). Finally, we must indicate that, for the purpose of this article, all the results of this survey will not be presented. Only those related to the objectives indicated in the introduction are present in the 'results' section of this article.

4. Results

Seventy-five (75) people accepted to participate in our study, but only 65 answered more than the first question. 46 respondents completed the whole survey. It is important to note that the sample may change depending on the results indicated.

73,9% of respondents were male and 26,1% were female. Close to 55% were 40 years old or younger. Close to 48% have six years or less of experience in their job position that they actually hold in their RCM. However, 43,5% have more than 10 years of experience in their actual position. All were permanent employees at the time of the survey.

Nearly 64% of respondents (n = 63) reported that cycling facilities are currently available but need further development (see Table 1). A high proportion of respondents also reported snowshoeing (60.32%) and cross-country skiing (66.67%). However, there are no windsurfing or sailing sites in the territories of many of the respondents (39.68%) because the RCMs do not or cannot have one.

Table 1. Activities, trails and outdoor sites available or nor by the RCM territories (n= 63)

Outdoor activities	Presently offered	Presently offered but should be developed	Not offered but we would like to have	Not offered but we don't want or can't have
Bicycle facilities	21 33.33%	40 63.49%	2 3.17%	0 0.00%
Winter walking trails	31 49.21%	25 39.68%	2 3.17%	5 7.94%
Equestrian riding trails	25 39.68%	20 31.5%	6 9.52%	12 19.05%
Hiking trails	34 53.97%	26 41.27%	2 3.17%	1 1.59%
Snowshoeing trails	38 60.32%	23 36.51%	1 1.59%	1 1.59%
Cross-country ski trails	42 66.67%	18 28.57%	0 0.00%	3 4.76%
Mountain bike trails	19 30.16%	22 34.92%	12 19.05%	10 15.87%
Canoe/kayak sites and routes	29 46.03%	23 36.51%	7 11.11%	4 6.35%
Outdoor climbing sites	16 25.40%	5 7.94%	19 30.16%	23 36.51%
Cave sites	6 9.52%	1 1.59%	14 22.22%	42 66.67%
Windsurfing sites	20 31.75%	11 17.46%	7 11.11%	25 39.68%
Sailing sites	22 34.92%	7 11.11%	4 6.35%	30 47.62%

Moreover, we note that the outdoor activities offered in the RCM territories that respondents would like to develop more over the next five years are related to cycling (65.9%), hiking (48%), snowshoeing (5%), cross-country skiing (12.6%) and water sports (7.8%). Activities that are not presently offered and that respondents would like to develop in the next five years are: cycling (34.6%), water sports (18.3%), walking trails (14.4%), rock climbing and cave exploration (10.6%), as well as horseback riding (5.8%).

Regarding the funding and management of outdoor sites, we note that the territorial development fund³ is often used by 44.4% of respondents (n = 54). Other provincial government grant programs are a frequent source of funding for outdoor development for 53.70%. However, 50% mentioned that they rarely use public funding and 23,6% checked 'Don't know' as their answer. 61.5% of respondents (n = 52) confirm that, over the last financial year, their RCM allotted a specific sum for the development and promotion of outdoor recreation. As such, depending on whether a professional resource was affected or not, specifically regarding the development and promotion of outdoor activities, the sum attributed differs ($p < 0.01$). Complementarily, 44.9% of

³ According to the Quebec Ministry of Municipal Affairs and Land Occupancy, the territorial development fund was set up to support all RCMs as part of measures aimed at local and regional development. For more information, see the MAMOT's website: <https://www.mamot.gouv.qc.ca/developpement-territorial/programmes/fonds-de-developpement-des-territoires-fdt/>

respondents (n total = 49) believes that the amounts allocated to outdoor management and development have decreased in the last five years (see Figure 1).

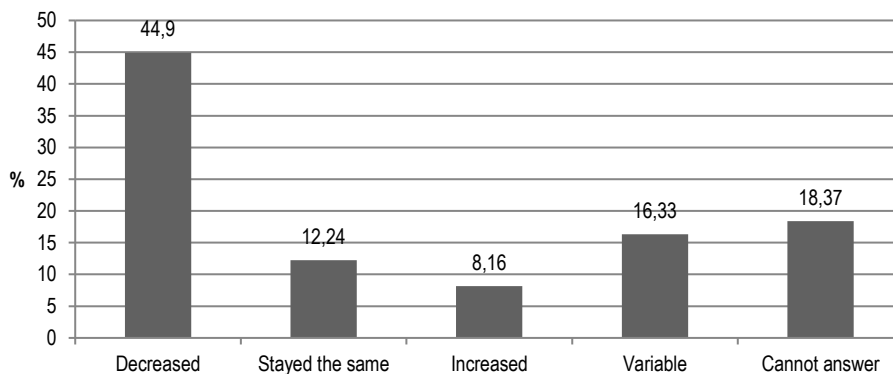


Figure 1. Evolution of the amounts allocated to outdoor development over the last five years (n= 49)

Forty-six (46) respondents mentioned that partnerships between their RCM and other actors in the field presently allow the development and promotion of outdoor recreation. In order to facilitate the understanding of these results, we have grouped together the following information:

- Close to 72% of partnerships mentioned are composed of non-profit organizations or not-for profit organizations;
- Eleven partnerships involve organizations dealing specifically with leisure and outdoor recreation;
- Nine partnerships involve organizations who intervene directly in the development of tourism and five others are connected to local centres for development;
- The main objectives of these partnerships are economic development, management of trails and space, human resources and outdoor promotion.

In a complementary way, 43.48% of respondents (n = 46) said that they wished to set up new partnerships in the coming years to develop and promote the outdoors in their territory.

Among the planning and development tools for developing trails and outdoor sites used by participating RCMs (n = 46), the layout and development and strategic planning are the ones mentioned most often (67.39% and 54.35% respectively). However, respondents also use other methods or tools to favour the development and promotion of outdoor recreation:

- Support for promoters (non-profit organizations and companies) (69.56%);
- Support for outdoor recreation organizations that develop access the territory (trails and sites) (67.39%);
- Support for an existing regional park or soon-to-be park (65.21%).

In a more outdoor promotion perspective, 69.57% of respondents (n = 46) say they developed promotional tools to showcase the trails and outdoor sites in their territory. The main tools used are: website (n = 28), printed brochures (n = 28) and social networks (n = 21) (see Figure 2). It is quite surprising to note that 30.42% of respondents do not

seem to have developed promotional tools to highlight the trails and outdoor sites located on their territory.

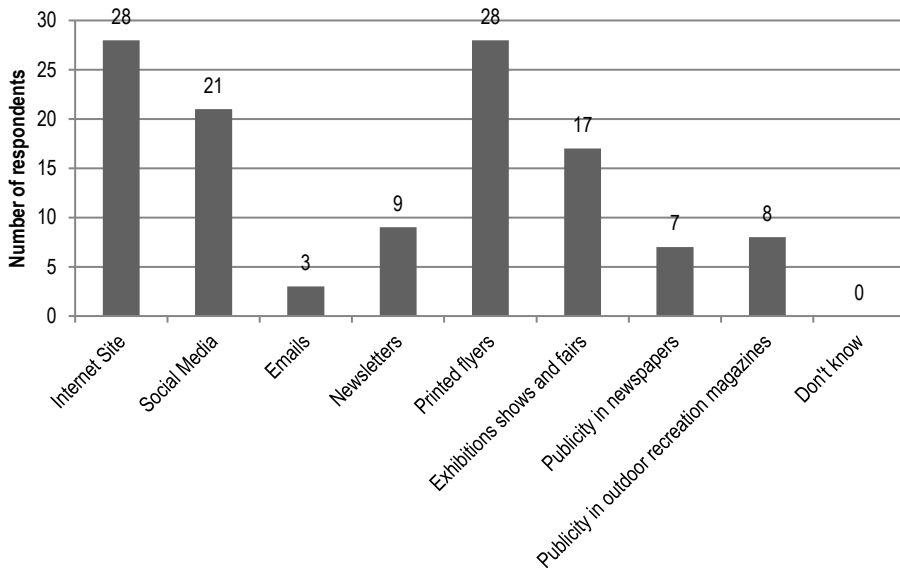


Figure 2. Main tools used by respondents to promote trails and outdoor sites ($n = 32$)

5. Discussion and conclusion

Overall, the results and correlated analysis lead to several observations and interpretations. It is interesting to note that several RCMs seem to support mostly outdoor recreation initiatives and their promoters instead of trying to fully manage and undertake projects, as is shown by the results presented in the last paragraph of the ‘results’ section. This observation is in line with Eagle’s study (2009) on partnership governance and consensual decision-making. According to us, it is very important since it shows a real will on the part of the RCM to support the initiatives that are already in place instead of looking to duplicate them. We also note that the outdoor activities offered in the RCMs’ territories and which respondents would like to develop more over the next five years are fairly conventional (cycling, hiking, cross-country skiing, snowshoeing, etc.). The RCMs seem to remain in ‘known territory’ and few are turning to some new features. This observation leads us to consider that it is perhaps important for these actors in the field to be regularly informed about new trends in outdoor recreation, especially through the use of new information and communication technologies (Tomczyk & Ewertowski, 2013). This also leads us to make an analytical link with Newsome’s study (2014) on the importance of conducting a study to evaluate the recreational and tourism potential of sites and outdoor spaces, in order to allow managers to find an easier balance between the principles of sustainability and preservation of natural heritage as well as the implementation of tourism and leisure activities.

With regard to the funding and management of outdoor recreation sites offered by the RCMs surveyed, we note that the territorial development fund is often used by

respondents. This may partially be explained by the fact that it is a well-known fund. This result may also be linked to the fact that many RCMs support outdoor developers, organizations that develop access to the territory or to an existing or future regional park. This interpretation is in line with Eagles' (2009) conclusions with regard to the models and principles of good governance. As such, this finding is also consistent with Muellmann et al.'s (2017) observations, who believe, in particular, that the success of interventions in the field of outdoor recreation very often requires the existence of a network of actors involved and the support of the latter through different funds and other public subsidy programs. However, for these actors, these methods of governance are efficient if the funding allotted is stable, which is not always the case when we analyzed certain results of our study. These results are consistent with Chaffin and Gosnell's reflections (2015), and especially with regard to uninterrupted financial and managerial stability. Therefore, globally, our results, as well as the correlated analyses, highlight the importance of following the adaptive management principles in the Quebec case which is of interest to us in this study. In fact, the planners who were surveyed evolve in an ever-changing management context which forces them to regularly find alternatives in order to move forward with planned projects while, at the same time, integrating the actors concerned with this domain, in the decision-making process.

With regard to the promotion of outdoor sites, we noted that the tools developed by the RCMs who were surveyed correspond perfectly to the conclusion of the studies conducted by Zugic et al. (2015) and Absher and Mann's (2010) regarding the importance of developing and maintaining bidirectional communication with its public and practitioners. Parallely, it seems of equal importance to develop new market segments through promotion in order to reach non-users of parks.

In 2017, the Transat Chair of the School of Management at the University of Quebec in Montréal published a vast pan-Quebec study aimed at identifying the outdoor recreation practitioner's profile. This quantitative study, based on the administration of an online survey, allowed us to survey over 3 000 respondents in order to determine several dimensions of the practice of outdoor recreation, by: The types of activities practiced; The practice habits; The importance given to the practice of outdoor recreation; The perceptions with regard to outdoor recreation; Outdoor recreation for youth; The practice of emerging activities; Outdoor recreation and family life; The improvements of the offer within the organization.

This survey highlighted the fact that among the activities practiced at least once during the last three years by respondents, two came out as being the most frequent, cycling on road/bicycle path (40%) and trail walking/winter walking (39%). It should also be mentioned that snowshoeing is the most popular winter activity. If we extract the data from this survey with regard to the main outdoor activities offered or to be developed by the managers as part of our study⁴, it can be noted that there is a significant difference in the composition of the group composed of hikers, winter walkers and snowshoers ($n = 341$) during these activities between men and women ($\rho = 0.007$) (see Table 2). Men seem more numerous to practice these activities by themselves, while women emphasize participating as a family.

⁴ Main outdoor recreation activities offered or those that the respondents would like to see developed: Cycling, snowshoeing, cross-country skiing and hiking. It should be noted that the study of outdoor recreation practitioners by the Transat Chair in Tourism covered a greater number of types of outdoor recreation practices than those found in this article. However, we wanted to focus on the main types of outdoor activities mentioned by our survey respondents in order to make meaningful, analytical links between our results and those of the Transat Chair in Tourism.

Table 2. Composition of the group of hikers, winter trail walkers and snowshoes

Composition of the group	Male (n=)	%	Female (n=)	%	ρ
Alone	31	20.9	22	11.4	0.007*
With family	26	17.6	64	33.2	
By couples	61	41.2	68	35.2	
With friends	26	17.6	36	18.7	
In an organized group	4	2.7	3	1.6	

* Chi-square test

It may also be noted that there is a significant difference in the age and groups composition for these outdoor activities ($\rho = 0.000$). In addition, we note that the link between the frequency of the use of mobile device applications and the number of days devoted to outdoor activities is significant both for men ($\rho = 0,004$) as well as women ($\rho = 0.003$), and for both genders combined ($\rho = 0.000$). In the same way, the preferences in terms of applications for mobile devices related to these outdoor practices are numerous. Among those that we were able to analyze, we note that for both sexes combined, respondents give the highest importance to applications that may be used offline ($\rho = 0.772$), the ability to continuously track the hike, with information on the remaining time, the distance travelled and the remaining distance ($\rho = 0.518$), as well as the ability to interpret fauna, flora and history on the trail ($\rho = 0.112$). As for game-oriented applications for children ($\rho = 0,017$), we note, however, that more women are giving it a higher level of importance.

With regard to cross-country skiers ($n = 204$), men appear to be more likely to cross-country ski on marked trails than women ($\rho = 0,041$). There is also a significant relationship between the motivation for cross-country skiing and the proximity of one's home to practice spaces ($\rho = 0,001$). Finally, there is a significant difference between the age groups of the respondents and the group composition during cross-country skiing ($\rho = 0.012$) (see Table 3).

Table 3. Composition of cross-country skiers

Composition of the group (n=)	18-34 years old	35-44 years old	45-54 years old	55-64 years old	65+	ρ^*
Alone	3	1	11	5	8	0.012
With family	16	19	14	11	7	
By couples	14	5	13	14	16	
With friends	14	8	3	8	9	
In an organized group	1	0	1	2	1	

* Chi-square test

A lack of time is a more significant constraint for those between the ages of 18 and 55 ($n = 344$) who practice cycling both on road and on bike paths ($\rho = 0.000$). There is also a significant difference between men and women with regard to preference of group make-up when practicing this outdoor activity ($\rho = 0.002$). Men like to participate in outdoor activities alone more than women who prefer doing the activities with family. Finally, those between 18 and 34 years old tend to use electronic maps on their phone ($\rho = 0.000$) as well as social media ($\rho = 0.014$) to plan their cycling outing.

As for the mountain bikers ($n=159$), a significant link may be noted between the frequency on an annual basis and the number of years of mountain biking experience ($\rho = 0.004$). Complementarily, the number of years' experience in mountain biking does not affect the average time spent on an outing neither during the week nor on the weekend. However, there is a big difference between men and women with regard to the frequency on an annual basis ($\rho = 0.059$). Women practice this activity between 1-9 times annually, while more men practice it more than 20 times a year (see Table 4). As well, a significant difference is noted between the number of years of experience in mountain biking between men and women ($\rho = 0.041$). More women than men have less than 10 years' experience, while more men have more than 10 years' experience (see Table 4).

Table 4. Frequency of annual mountain biking practice by gender

Annual frequency of practice	Male (n=) *	%	Female (n=)	%	ρ^{**}
1 – 5 times	25	22.9	15	30.0	0.059
6 – 9 times	31	28.4	18	36.0	
10 – 20 times	17	15.6	11	22.0	
20 times or more	35	32.1	6	12.0	
Years of experience	Male (n=) *	%	Female (n=)	%	ρ^{**}
1 – 5 years	42	38.5	23	46.0	0,041
6 – 10 years	13	11.9	12	24.0	
More than 10 years	53	48.6	15	30.0	

*1 male respondent missing **Chi-square test

It is noted, however, that the opportunity to take advantage of nature ($\rho = 0.035$) and the possibility of socializing with family and friends ($\rho = 0.059$) are two aspects of motivation which differ according to the age group. People aged 18-54 put more emphasis on these two motivational elements (see Table 5). In this perspective, there is a significant difference between the age groups of practitioners and the family practice of this outdoor activity ($\rho = 0.020$). Respondents aged 18-44 are more apt to practice in a family setting as are respondents aged 55 and over. Parallely, male practitioners are more numerous than women to consider the cost of mountain biking as an obstacle ($\rho = 0.016$).

Table 5. Sources of motivation for practicing mountain biking

Sources of motivation to practice the activity	18-34 (n=)	35-44 (n=)	45-54 (n=)	55-64 (n=)	65+ (n=)	ρ^*
Physical activity	32	34	33	12	11	0.372
The thrill	10	8	3	2	2	0.383
Take advantage of nature	29	34	35	15	10	0.035
The challenge/surpassing oneself	8	10	6	4	2	0.801
Socialize with family or friends	7	4	5	6	2	0.059
Discover new regions or areas	8	7	7	2	1	0.965

*Chi-square test

We notice that many outdoor practitioners want access to various amenities and other technologies that facilitate the planning and practice of an outdoor activity either alone or with family (trail maintenance, technological and interactive tools, etc.). This is very indicative of a need to make the outdoors even more accessible without necessarily distorting the landscape and nature. These expectations coming from practitioners require de facto human resources that can understand these requests in a detailed fashion and be able to answer them adequately. Thus, and in the context of RCMs in Quebec, which is the main point of interest in this study, the support for promoters and outdoor organizations as well as the development of action partnerships, are proving even more adequate and relevant. It may also be noted that practitioners pay close attention to new technologies as a central element of their outdoor practice, both before and during their practice. These rapidly evolving technologies are forcing outdoor stakeholders to monitor these developments and to take them into account in an adaptive management structure. At the same time, there is a relatively marked difference in gender and age with respect to the composition of the group of practitioners when practicing an outdoor activity. This finding is, in our opinion, central to the management and promotion of the outdoors in Quebec, with a goal of improving and adapting the current offer. In light of these results, it seems to us that it is even more fundamental to try to segment the practitioners' profiles in the same outdoor activity in order to better meet their needs and concerns. More generally, there are no major discrepancies between the actions or support for the outdoors undertaken by the RCMs in Quebec and the needs and practice realities of outdoor practitioners presented in the previous paragraphs. Rather, it is noted that different expectations according to the generations of practitioners are fundamental to consider in order to equitably develop the outdoors in Quebec, and which, therefore, require regular evaluation and reassessment to ensure that the offer always matches the demand.

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