

## **Urban and Rural Perception of Winter Along the St. Lawrence Valley: A Case Study on Trois Rivières and Champlain, Québec**

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### **ABSTRACT**

In Canada, the population of the St. Lawrence Valley (about 7 million) is among the most affected by the amount of snowfall and the roughness of its winter. The residents of Quebec City (eastern limit of this Valley) and its vicinity (about 700,000 people) get on the average nearly 340 cm of snow each winter, while metropolitan Montréal (around 4 million, about the western limit of this Valley) gets more than 200 cm. During winter temperatures can be very cold with an average below  $-10^{\circ}\text{C}$  in January, the coldest month of the year.

In order to verify the hypothesis that there is an urban (very negative) and a rural (more positive) perception of winter in this area, we selected Trois-Rivières (125,000 people, midway between Montréal and Québec City) and a rural area close to it (about 20 km east) the village of Champlain with a population of 1,500.

Subsequently close to 200 participants were questioned on their perception of winter. This paper reveals that winter is the worst season perceived by this population namely because of the cold (first reason) and the snow (second reason). However, the study shows that there is a different perception whether we live in a city (Trois-Rivières) or a rural area (Champlain). Age is also an important factor in the perception of winter.

Key words: Perception of winter, St. Lawrence Valley, snow, Trois-Rivières, Champlain.

### **INTRODUCTION**

Each winter, the St. Lawrence Valley may get more than 400 cm of snow. Snowstorms are frequent (Plamondon, 1979) and interfere with human activities greatly. In fact, if we exclude some portions of the Canadian Rockies, this Valley gets among the highest snowfall in Canada (Potter, 1965, Péguy, 1968) and even in the world considering its density of population. After more than 400 years of occupation, have people of European origin got used to this type of winter? Authors, such as Arcand (1999), are even suggesting simply abolish winter by slowing down professional activities in January, and February and Lamontagne (1983) shows in a historical perspective that people haven't really been able to get around winter just yet. This concept is the onset of this research in trying to look at the current perception of winter by its residents. Although there is a great deal of study of the physical aspects of climate, one must admit that very little has been done on climate perception in general and virtually nothing during winter. Yet in Canada, winter is, by far, the season that differs the most from the others. Overall, two hypotheses will be tested. The first one looks at the perception of winter/cold/snow according to the environment in which people live (essentially a rural and an urban area), and the second one, that the age of the people is a major explicative factor in understanding the way we perceive winter.

### **METHODOLOGY**

In order to verify our two hypotheses, we produced a questionnaire measuring four various aspects of winter: (a) the season that appears to be the most difficult (usually winter) according to

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nine age groups (see Table 1) and reasons why this season is the most difficult as well as the definition given for winter, (b) perceived and perceptible periods during winter, (c) winter hobbies and the desire to spend winter elsewhere, finally (d) the memory related to more difficult winters of the past and the influence that newspapers can have on people's perception of winter. This questionnaire was answered by 113 residents of Trois-Rivières (46° 21' N. and 72° 35' W., an urban area of about 140,000 people) and 40 residents of Champlain, a rural area of 1,500 people located about 20 km east of Trois-Rivières in early June 1996. People interviewed were all born and raised there. In Trois-Rivières people were interviewed in a school, a recreational center, a shopping mall and the University. In Champlain, except for the school, we had to go from door-to-door, which explains the limited number of people interviewed. After all the answers were received, it appears obvious that the perception that one develops of winter in the St. Lawrence Valley is greatly dependent on the age of the person and the geographical area that he lives in.

## RESULTS AND DISCUSSION

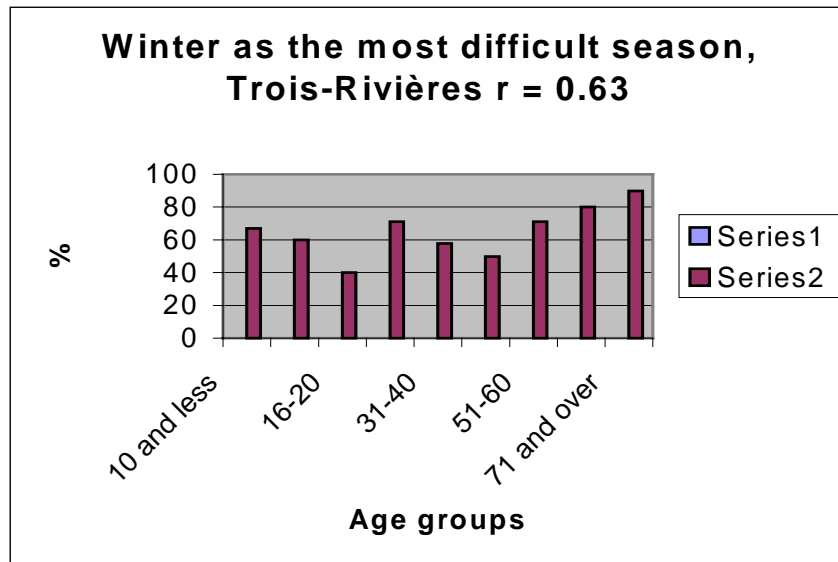
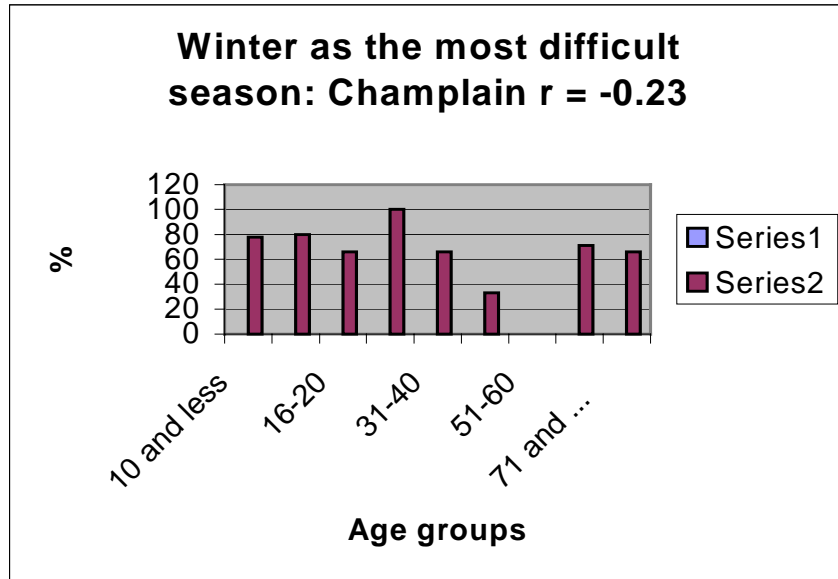
### The most difficult season, reasons and definition of winter according to the age groups.

To the first question asked: in your opinion is there a season you find more difficult? 65 % answered winter. However in Trois-Rivières (Table 1 and Figure 1) one sees that as people get older the percentage against winter increases ( $r = 0.63$ ), which is not so much the case in Champlain ( $r = -0.23$ ). People between 40 and 51 are different in the sense that they don't mind winter as much. (only 33% in Champlain and 50% in Trois-Rivières find it more difficult).

**Table 1. In your opinion is there a season that you find more difficult?**

Age	Geographical areas					
	n	Champlain (n=40)		n	Trois-Rivières (n=113)	
10 or younger	9	Winter	78%	12	Winter	67%
		Summer	12%		Summer	17%
		Spring	12%		Spring	8%
					Fall	8%
11-15	10	Winter	80%	25	Winter	60%
		Fall	10%		Fall	12%
		Summer	10%		None	20%
					Spring	8%
16-20	3	Winter	66%	10	Winter	40%
		Fall	34%		Fall	40%
					None	10%
					Wint/Sum	10%
21-30	2	Winter	100%	24	Winter	71%
					Fall	17%
					None	4%
					Spring	4%
					Wint/Spri	4%
31-40	3	Spring	66%	12	Winter	58%
		None	34%		None	17%
					Wint/Sum	17%
					Summer	8%
41-50	3	Wint/Spri	33%	8	Winter	50%
		Spring	33%		Spring	25%
		Summer	33%		None	13%
					Fall	13%
51-60	0			7	Winter	71%
					Spring	14%
					Fall	14%
61-70	7	Winter	71%	5	Winter	80%
		None	29%		Spring	20%
71 and over	3	Winter	66%	10	Winter	90%
		None	34%		None	10%

In both geographical areas, the majority of the people interviewed admitted that age influences their perception of winter (87% in Champlain and 81% in Trois-Rivières). Overall people thought that winter seemed less difficult when they were younger (70% in Trois-Rivières, but 55% in Champlain). Hence the variable age remains a vital element in explaining the way people look at winter.



**Figure 1. Winter as the most difficult season in Trois-Rivières and Champlain**

Most common reasons given to explain why winter is perceived as the worst season of all is the cold (47% in Trois-Rivières and 25% in Champlain, table 2) and the snow (10% in Champlain and 8.8% in Trois-Rivières). Driving (and its related problems in the winter time) counts for 8% in

Trois-Rivières and 3% in Champlain. Darkness and ice are given slightly more weight in Trois-Rivières.

**Table 2. Summary of the most frequent reasons why winter is the most difficult season.**

Reasons	Champlain n=40		Trois-Rivières n=113	
	n	%	n	%
<i>Cold</i>	10	25	53	47
<i>Snow</i>	4	10	10	8.8
<i>Driving</i>	1	3	9	8
<i>Darkness</i>	1	3	5	4.5
<i>Ice</i>	1	3	5	4.5
<i>Long</i>	2	5	0	0

When it comes to the definition of winter, people mostly used the term “cold” (42% in Trois-Rivières, 30% in Champlain, Table 3), and “snow” (28% in Champlain, 23% in Trois-Rivières). Some differences separate the two areas. While in Trois-Rivières people tend to describe winter in a negative way (dreary, long, miserable, painful), some people in Champlain describe it in a positive way (nice, beautiful, love it). In general, positive aspects of winter (sports, peaceful, rest, etc.) are always more noticeable in Champlain.

**Table 3. Summary of the most frequent terms defining winter**

Terms	Champlain n=40		Trois-Rivières n=113	
	n	%	n	%
<b>Cold</b>	12	30	47	42
<b>Snow</b>	11	28	26	23
<i>Dreary, long, miserable</i>	1	3	16	14
<b>Nice, beautiful, love it</b>	5	13	5	4
<b>Game, sport</b>	4	10	5	4
<b>Peaceful</b>	3	8	3	3
<b>White</b>	3	8	5	4
<b>Clothes</b>	1	3	6	5
<b>Rest</b>	2	5	2	2
<b>Cold and snow</b>	1	3	6	5

### Perceived and perceptible periods during winter

If it is understood that winter remains the most difficult season for the majority of people, can they recognize specific segments of that season? In total about three participants out of four say so. Beginning, middle, and end of winter are mostly identified. Answers vary according to where people live (table 4). For instance these three phases, as well as Christmas, are always more obvious in the urban area. On the other hand weather, such as colder or warmer is more noticed in Champlain. Finally although phases such as darkness and depression are minor in Trois-Rivières, they are non-existent in Champlain.

**Table 4. Cumulative on perceived periods in winter.**

Perceived periods	Champlain	Trois-Rivières
NO	25%	29%
Beginning	15%	21%
Middle	13%	25%
End	13%	15%
Christmas	3%	13%
Colder	15%	4%
Warmer	8%	2%
Snowstorm	5%	8%
Darkness	0%	3%
Depress	0%	1%

In order to explore the notion of phases during winter better, participants were asked how they felt towards: a) the very first snowfall, b) Christmas, c) February-March, d) the snow melting (in the springtime). These were defined as perceptible periods. It was aimed at discovering whether people felt bad about winter at all times or if, on the contrary, we can identify positive and negative sequences during this season. Table 5 shows the results.

**Table 5. During winter how do you perceive these periods? a) the very first snowfall, b) Christmas, c) February-March, d) the snow melting (in the springtime).**

Champlain	%	Trois-Rivières	%
a) positive	75	a) positive	65
negative	18	negative	23
neutral	5	neutral	10
no answer	2	no answer	2
b) positive	93	b) positive	73
negative	2	negative	18
neutral	2	neutral	4
c) positive	35	c) positive	18
negative	35	negative	65
neutral	18	neutral	12
no answer	5	no answer	5
posi-nega	8		
d) positive	58	d) positive	62
negative	30	negative	28
neutral	5	neutral	3
no answer	5	no answer	5
posi-nega	2	posi-nega	2

The very first snowfall translates into positivism (stronger in Champlain with 75% in favor while 65% in Trois-Rivières). Christmas is seen as the merriest time of winter (virtually unanimous in Champlain with 93%). Snow melting in the springtime is also related to happiness but not as much as the two first phases (58% in Champlain and 62% in Trois-Rivières).

The major difference occurs in the perception of February-March (this is almost half of the winter). While in Trois-Rivières a majority of people see it in a negative way (65%), in Champlain it is only 35%. In this rural community even 35% of the participants is positive towards even this segment of winter (only 18% in Trois-Rivières). This clearly reinforces the vision of a better way of looking at winter if we live in the country rather than in the city.

### **Winter hobbies and the desire to spend winter elsewhere.**

At this stage one wished to examine where people like to spend their winter hobbies, essentially to find out whether people devote time outside or inside during this season. From this sample we were also able to measure the percentage of time spent outside.

Once again there is no doubt that the dynamic varies between this urban and rural area. Indeed in Champlain (table 6) the majority (50%) of the people are involved in outdoor activities versus only 23% in Trois-Rivières. On the average the length of time spent outdoors is also greater in the country (34.3%) than in the city (20%). Not only do people in Champlain enjoy spending more time outside in the winter but also for a longer period.

**Table 6. (a) Where do you spend most of your freetime (hobbies) during winter?  
(b) What would be the % of your freetime spent outside during winter?**

Answers	Champlain	Trois-Rivières
a) Indoor	40%	59%
Outdoor	50%    b) 34.3%	23%    b) 20%
Indoor/outdoor	10%	12%
None	0%	2%
Elsewhere	0%	3%
No answer	0%	1%

It is also quite revealing to look at answers received to the question : if you had the choice would you prefer spending winter elsewhere? Do you ever spend it elsewhere? (Table 7).

**Table 7. (a) If you had the choice would you prefer spending winter elsewhere?  
(b) Do you ever spend it elsewhere?**

Answers	Champlain	Trois-Rivières
a) no	68%	35%
yes	32%	64%
may be	0%	1%
b) no	68%	64%
yes	32%	36%

The majority of the people in Champlain (68%) prefer to stay at home in winter, while people in Trois-Rivières (64%) would prefer to be elsewhere (mostly in Florida and for the whole winter). Similarities are noticed for spending winter elsewhere, but some people interviewed in Champlain who had spent winter in Florida admitted being anxious to come back. Once again these results emphasise the differences in the perception of winter depending on whether people live in an urban or a rural area.

### **The memory related to more difficult winters in the past and the possible influence of newspapers in people's perception of winter.**

Our last section is a twofold analysis. First we are exploring the memory that people might have developed towards more difficult winters mostly in the recent past (Table 8) and the possible influence that newspapers may have on people's perception of winter (Table 9).

About two thirds of the people remembered more difficult winters in their past (the memory is slightly better in Champlain). Three types of answers were given: years when winter was more difficult in the past five years (38% in Champlain, 32% in Trois-Rivières), years when winter was

more difficult six or more years ago (15% in Champlain, 11% in Trois-Rivières), and a percentage of people remembered more difficult winters but without specific years (18% in Champlain, 20% in Trois-Rivières).

**Table 8. Do you recall years when winter was more difficult?**

Answers	Champlain	Trois-Rivières
No	30%	35%
From 1 to 5 years ago	38%	32%
6 years or more ago	15%	11%
Without specific time	18%	20%

Finally let's take a look at the possible influence that newspapers might have on people's perception of winter (Table 9). At this stage people were asked if when they read newspapers that talked about winter-snow-cold, did they influence their own perception of winter?

**Table 9. Do you think that when newspapers talk about winter-snow-cold they influence your own perception of winter?**

Answers	Champlain	Trois-Rivières
No	65%	58%
Yes	28%	25%
Do not read them	7%	11%
No answer	0%	6%

Results are similar for both geographical locations. One person out of four considers that newspapers have a negative impact on the perception of winter. In general people tend to find newspapers too negative while describing this season and make it look even worse.

## CONCLUSIONS

In Trois-Rivières, the perception of winter is negative and increases as people get older ( $r = 0.63$ ). Major reasons given for finding winter the worst season is related to « cold », « snow » (8.8%) and driving conditions (8%). Here winter is defined as « cold » and « snow » and with negative terms such as dreary, miserable and long. People devote less time outside while pursuing their hobbies (23%) and for a shorter time (20%). The majority of people interviewed would much rather spend winter in Florida.

In Champlain, the perception of winter is not as negative and improves as people get older ( $r = -0.23$ ). Although people also tend to define winter as « cold » and « snow » they include positive terms (nice, beautiful, love it, peaceful, white). The very first snowfall, Christmas and the snow melting in the springtime are perceived in an even more positive way. Furthermore the period of February-March is seen as less negative. People tend to spend more time outdoors (50%) and for a longer time (34.3%). The majority of the people prefer to spend winter in Champlain.

This research allows us to establish for the St. Lawrence Valley a rural (moderate) and an urban (very negative) perception of winter. Based on this study we can conclude that people's attitude to winter is explained by their age and the environment in which they live in.

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