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Toronto, ON – Despite an NHL lockout, those Canadians who say that hockey has been a part of their life will continue to make it so, according to a new Ipsos Reid poll conducted on behalf of RBC. Of the 56% of Canadian who say that hockey is a part of their life, a majority (56%) say that it will *still* be a part of their life despite professional players being locked out of competing in the NHL for the second time in eight seasons. A minority (44%), however, say that hockey will not be a part of their lives during the lockout.

Among those for whom hockey has been a part of their life, Atlantic Canadians (70%) are the most likely to say that hockey will still be a part of it, followed by Quebecers (61%), Ontarians (57%), residents of Saskatchewan and Manitoba (53%), British Columbians (51%), and Albertans (45%). Western Canadians (British Columbia – 49%, Alberta – 55%, and Saskatchewan and Manitoba – 47%) are most likely to say that hockey won't be a part of their lives given another lockout.

With no end to the lockout in sight, the one third (33%) of Canadians who need a hockey fix will need to satisfy their fix through some other other means. Among these hockey addicts, six in ten (61%) say they will get their hockey fix by going to a Major Junior game, with Albertans (75%) being most likely to attend these games. Half (45%) will watch competitive

community teams at their local rink, with British Columbians (57%) being the most likely to watch local hockey. Other ways they'll get their hockey fix include playing hockey on a videogame console (17%), playing real-life hockey themselves (17%), watching hokey movies or highlights from previous years (15%), and volunteering with their local hockey in their community (4%).

With some Canadians getting their predominant hockey exposure from local teams at the community rink, there have been questions as to whether another NHL lockout will have a detrimental effect on grassroots hockey in local communities. Just 14% of Canadians believe that grassroots hockey in their community will be negatively affected by the lockout. Nine in ten (86%), however, do not believe that grassroots hockey will be negatively affected.

Quebecers (17%) are most likely to believe that community hockey will be negatively affected by the lockout, followed by Ontarians (15%), Albertans (14%), residents of Manitoba and Saskatchewan (12%), British Columbians (11%) and Atlantic Canadians (11%). British Columbians (89%) and Atlantic Canadians (89%), however, are most likely to believe that local hockey will not be negatively affected by the lockout, followed closely by residents of Saskatchewan and Manitoba (88%), Albertans (86%), Ontarians (85%), and Quebecers (83%).

Without hockey to occupy them on Saturday nights, many Canadians will have to find ways to replace time they would have spent watching the game. Given a list of activities, more than one-third (35%) will fill their hockey-watching time by spending more time with friends and family. Three in ten (30%) will replace time spent watching hockey by watching other sports, while two in ten (17%) will exercise or play other sports. Others will go to the movies (14%), get more sleep (13%), or even cry because there is no hockey (3%). Four in ten (38%), however, say that they wouldn't do any of the listed activities to replace their hockey-

watching time. Quebecers are most likely to spend more time with friends and family (44%) or exercise and play other sports (22%), while residents of Saskatchewan and Manitoba (40%) are most likely to watch other sports. Ontarians (5%) are the most likely to say they'll cry about it.

How hockey fans in Canada get through the lockout might be dependent on what kind of hockey personality they consider themselves to be. Three in ten (29%) consider themselves "social watchers", where they watch hockey at the bar or when their friends insist. One-quarter consider themselves "hockey enthusiasts" (24%), who watch most of the games, while a similar proportion consider themselves to be "bandwagon fans" (23%), who watch only when their team is in the playoffs. Some (3%) Canadians even consider themselves to be "hockey-obsessed" or a "die-hard hockey fan", where they eat, sleep, dream, and breathe hockey. Two in ten (22%), however, classify themselves as "hockey haters", who don't like hockey at all.

Residents of Saskatchewan and Manitoba (40%) are most likely to be "social watchers, Albertans (30%) are most likely to be "hockey enthusiasts", and Quebecers (28%) are most likely to be "bandwagon fans". Interestingly, Atlantic Canadians are most likely to be "hockey haters" (27%) and are tied with Albertans (4%) as being most likely to describe themselves as "hockey-obsessed".

These are some of the findings of an Ipsos Reid poll conducted between September 17th to 20th, 2012, on behalf of RBC. For this survey a sample of 1,016 Canadians from Ipsos' Canadian online panel was interviewed online. Weighting was then employed to balance demographics to ensure that the sample's composition reflects that of the adult population according to Census data and to provide results intended to approximate the sample universe. The precision of Ipsos online polls is measured using a credibility interval. In this case, the poll has a credibility interval of +/- 3.5 percentage points for the Canadian general population. All sample surveys and polls may be subject to other sources of error, including, but not limited to coverage error, and measurement error. For more information on how to credibility intervals, please visit the Ipsos website at http://ipsos-na.com/dl/pdf/research/public-affairs/IpsosPA_CredibilityIntervals.pdf

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How to Calculate Bayesian Credibility Intervals

The calculation of credibility intervals assumes that Y has a binomial distribution conditioned on the parameter θ\, i.e., Y|θ~Bin(n,θ), where n is the size of our sample. In this setting, Y counts the number of "yes", or "1", observed in the sample, so that the sample mean ($\bar{y}$) is a natural estimate of the true population proportion θ. This model is often called the likelihood function, and it is a standard concept in both the Bayesian and the Classical framework. The Bayesian[1] statistics combines both the prior distribution and the likelihood function to create a posterior distribution. The posterior distribution represents our opinion about which are the plausible values for θ adjusted after observing the sample data. In reality, the posterior distribution is one's knowledge base updated using the latest survey information. For the prior and likelihood functions specified here, the posterior distribution is also a beta distribution (π(θ/y)~β(y+a,n-y+b)), but with updated hyper-parameters.

Our credibility interval for θ is based on this posterior distribution. As mentioned above, these intervals represent our belief about which are the most plausible values for θ given our updated knowledge base. There are different ways to calculate these intervals based on $\pi(\theta/y)$. Since we want only one measure of precision for all variables in the survey, analogous to what is done within the Classical framework, we will compute the largest possible credibility interval for any observed sample. The worst case occurs when we assume that a=1 and b=1 and $y = n/2$. Using a simple approximation of the posterior by the normal distribution, the 95% credibility interval is given by, approximately:

$$\bar{y} \mp \frac{1}{\sqrt{n}}$$

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[1] *Bayesian Data Analysis, Second Edition, Andrew Gelman, John B. Carlin, Hal S. Stern, Donald B. Rubin, Chapman & Hall/CRC | ISBN: 158488388X | 2003*

For this poll, the Bayesian Credibility Interval was adjusted using standard weighting design effect 1+L=1.3 to account for complex weighting[2]

Examples of credibility intervals for different base sizes are below.

Sample size	Credibility intervals
2,000	2.5
1,500	2.9
1,000	3.5
750	4.1
500	5.0
350	6.0
200	7.9
100	11.2

[2] *Kish, L. (1992). Weighting for unequal Pi . Journal of Official, Statistics, 8, 2, 183200.*