# ON THIN ICE: Examining Youth Hockey Participation in Canada

by

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Submitted in Partial Fulfillment of the Requirements
for the Degree of Bachelor of Arts with Honours in Sociology

at
Dalhousie University
Halifax, Nova Scotia
April 2017

## Table of Contents

## Table of Values

ABSTRACT

Picture your local community, and chances are you will see two things: a hockey arena and an outdoor rink. Many Canadian children of all backgrounds play hockey. It is the quintessential Canadian sport, and yet previous literature suggests that fewer Canadian boys are playing hockey now, while more girls are playing hockey than ever before. If the boys aren't playing hockey, what are they playing, if they do play sports? What might affect these participation rates? Is class an issue? Are youth sports simply becoming too expensive for the average Canadian family? My research addresses these questions. Using Statistics Canada's General Social Survey from 1998 and 2010, this honours thesis examines how youth sports participation may have changed over time by gender, age, and social class. I focus on hockey participation specifically; however, in order to see how hockey participation may have changed with regard to the various factors mentioned above, I examine youth participation rates for the four other most popular sports played by Canadian children in 2010. None of the previous literature I examined compared variances in hockey participation to variances in other sports. By creating this comparison cross sectional analysis, my honours thesis creates a more complete analysis of the Canadian youth sports landscape.

Total abstract word count: 207 words

ACKNOWLEDGEMENTS

First and foremost, I would like to thank Dr. Martha Radice for being an awesome honours supervisor. Her guidance has been extremely helpful, and I couldn't have gotten through this process without her. I would also like to thank Dr. Howard Ramos for his willingness to answer all of my countless emails and questions, and for essentially being an extra supervisor for my honours thesis, even though he was not required to do so. He made social statistics and quantitative analysis *almost* exciting, and I am forever grateful to have had someone to calm me down when I may have been freaking out about something not working in Stata. Third, I would like to thank Dr. Jean-Sebastien Guy for his help with my theoretical analysis, especially with regard to Pierre Bourdieu. I would be remiss if I also did not mention Dr. Christopher Helland who told me about honours during his Introduction to Sociology class in my first year of university. He encouraged me to go into the honours program at a time when I didn't even know if I wanted to major in sociology. Last, I want to thank my parents. Their unwavering enthusiasm, support and guidance have been crucial not only to the thesis process, but really to my entire undergraduate university career. I cannot even calculate how many hours they spent reading and commenting on my honours thesis during the past year. To my honours classmates and the community that is Dalhousie, I am tremendously grateful. As Hemingway said in another context, Dalhousie Sociology is a movable feast that I will carry with me forever.

## INTRODUCTION: BOURDIEU, CLASS, AND BOYS [AND GIRLS] ON ICE

One of the emerging social issues in Canadian sport is the financial burden hockey places on Canadian families. This social issue can be analyzed using sociology of sport, a sub-discipline of sociology "in which research and theory deal with sport as a playful, rationalistic and rewarding activity that is done in interaction. It is an activity which, depending on the amount of social reward, is located on a continuum between play and work" (Lüschen, 1967). Despite Lüschen's early writings connecting sociology and sport, sociology of sport did not gain popularity in academia until Norbert Elias' seminal work *Quest for Excitement*: *Sport and Leisure in the Civilizing Process*, which he originally published with his colleague Eric Dunning in 1986 (Dunning & Elias, 2008). However, Dunning and Elias's joint work on sports and leisure is limited mainly to the history of sports entertainment and the reasons why British citizens engage in sporting practices. The authors do not make the connection between sociology of sport and social class. Pierre Bourdieu, one of the most prominent sociologists of the 20th century, makes this connection in his article "Sports and Social Class" (1991), first published in 1978.

Using Bourdieu on the sociology of sport, as well as other academic sources and newspaper articles, this honours thesis examines the connection between social class and sports. It addresses the following research question: *How has participation in Canadian minor hockey varied by socioeconomic class, age and gender over time?* This research question holds social significance as Hockey Canada (the governing body for all amateur hockey in the country) lost 8,000 minor hockey/youth hockey players between 2008/2009 and 2009/2010, despite an increase in girls' hockey participation during this time. This poses a long-term cultural problem for Canada as it officially named hockey its national winter sport in 1994 (Jedwab, 2007). There is a passion for national success in hockey that may not be sustained.

My overall aim with this research is to analyze how youth hockey participation in Canada has changed over the course of twelve years, and how hockey participation compares to the four other most popular sports among Canadians: swimming, soccer, basketball and baseball.

The General Social Survey (GSS) Time Use survey/Time Stress and Well Being survey carried out by Statistics Canada in 1998 (Cycle 12) and 2010 (Cycle 24) serve as the main sources of data for my honours project. After the raw Public Use Microdata File data sets (PUMF) were downloaded from Nesstar (a public software system for downloading and analyzing data), they were reviewed and analyzed using the statistical social science program, Stata.

## THEORETICAL FRAMEWORK: DO MOSTLY RICH KIDS PLAY HOCKEY?

### *Empirical Approaches to Sport and Social Class*

Bourdieu (1978) states that, in France, most team sports--basketball, handball, rugby and soccer--are played by workers, technicians and shopkeepers. These sports, along with boxing and wrestling, comprise the working class sports and supposedly disgust the effete upper class due to their inherently violent nature, which Bourdieu claims reiterates, for the upper class, the "vulgarity" of the proletariat. He contrasts these "popular sports" with "distinctive" sports such as golf, tennis, equestrian and skiing, which are most commonly played by the bourgeoisie.

Bourdieu's concept of capital also plays a part in his analysis of sports and social class. Capital is a measure of power among individuals in a society. Bourdieu (1979) conceptualizes four types of capital: economic, cultural, social and symbolic. My honours research examines cultural and economic capital only as they are the most relevant to this topic. The idea of cultural and economic capital provides an interesting contrast to my findings. Hockey by nature is a violent sport, yet it is one that is often played by children from affluent families, in contradiction

to Bourdieu's analysis. This could be attributable to the increased financial investment that hockey has demanded in recent years, when formerly hockey was accessible for all male youth, regardless of socioeconomic status. The sport also still includes a wide swath of Canadian youth. Of course, since Bourdieu was writing in France, hockey was not a sport that he discussed. Nonetheless, Bourdieu still provides an excellent, insightful and original analysis of sport and social class.

In order to understand Bourdieu fully, one must understand what he means by "economic capital and cultural capital." According to Tomlinson (2004), economic capital refers to economic wealth and goods, and cultural capital refers to the nonmaterial goods that one possesses, such as a high level of education, various types of knowledge, and physical, aesthetic and language skills and preferences. These nonmaterial goods can often be turned into economic capital (e.g., turning athletic ability into a professional sports contract or a long-term career). The bourgeoisie/upper class who partake in distinctive sports are likely to have both forms of capital as they would have the monetary wealth of economic capital in addition to the tasteful preference for "high culture" sports and activities. The proletariat/working class on the other hand, is unlikely to have capital in any form, as they do not have the financial means or social status to utilize economic or cultural capital.

Warde (2006) also draws on Bourdieu and different forms of capital in his research. He uses the Cultural Capital and Social Exclusion Survey (CCSE), the UK version of Statistics Canada surveys, to analyze the patterns and participation rates for sports in society. He examines the differences in sports participation through gender, age, class and ethnicity. He identifies male and female sports participation levels as the most influential variable in the results, and notes that men and women prefer different types of sports. He also observes that women of higher incomes

participated more in sports than women of a lower socioeconomic bracket, which supports Bourdieu's theory of economic capital, because the more economic capital a woman has, the more extracurricular activities a woman can afford to participate in. Additionally, it could be that women of a lower socioeconomic status do not have time to play sports since they are so busy trying to provide for their families. This is interesting to note, as one of Warde's main critiques of Bourdieu is that he does not put enough emphasis on gender in his analysis. Warde believes that Bourdieu's strict focus on social class is too narrow.

Warde's overall argument and conclusion affirm that occupational class makes an important difference in terms of the sports people play and watch. However, Warde focuses specifically on adults as opposed to children, and his research was carried out in the United Kingdom, but the basic premise is the same. His inclusion of gender is important as it allows me to see how sport participation varies by males and females in the UK, and how this could potentially apply to Canadian sports participation.

The main goal of Wilson's (2002) study is to explore how social class not only affects sports participation but also sports attendance and interest. Using data from the 1992 American GSS, Wilson discovers that individuals from a higher social class are more likely to be involved in sports than individuals from a lower social class. What is also interesting to discern, however, is that through questionnaires, Wilson concludes that people with a higher socioeconomic status are less involved in what he labels "prole" sports or proletarian sports (such as boxing, football, wrestling, etc). These upper-class citizens have high involvement in elitist sports (such as hockey, golf, tennis). Although he does not specifically equate prole sports and the proletariat with violence as does Bourdieu, he validates Bourdieu's initial theories of the social class influence of the distribution of sports participation in society. Nonetheless, Wilson states that

while economic capital and total income play a role in determining sports involvement, cultural capital is a better indicator--because someone with high cultural capital is more likely to have greater opportunites to play sports, in contrast to Bourdieu's opinion that social class is the greatest indicator of sports participation.

The most recent academic study to use Bourdieu's concepts and theories is the Sports Research Paper (Heritage Canada, 2013). Heritage Canada uses information taken from every time use cycle of the GSS (1992, 1998, 2005 and 2010). The report focuses on active sports participation of the sample population surveyed. The report analyzes sports participation over time using age, sex and overall household income, which allows me to create and analyze variables of interest. The Sports Research Paper reveals a distinction between youth participation and adult participation, something that much of the other scholarly literature neglects to do. The report states that sports participation overall is decreasing in Canada across all age groups, but the 15-19 age group experienced the biggest decline in overall participation rates between 2005 and 2010. The report also states that children from a high income household are more likely to participate in sports than children from low and middle income backgrounds. In addition, using various forms of data analysis, Heritage Canada states that boys and girls participate in different sports, but that the gender gap in sports tournament participation continues to shrink. The report focuses on active sports participation of the sample population, which is highly relevant for my purposes.

*Hockey as a Community Sport: Arenas for All or a Few?*

According to Kirby Letts and Steckley (2014), hockey is an elitist sport. An elitist sport is one that only children from privileged class backgrounds can afford to play. This is the opposite of a mobility sport, which is a sport that is financially accessible and available to everyone regardless of social class, much like soccer and basketball are now. As hockey increasingly

becomes an all-year round, time-consuming activity, with high equipment and team costs, the authors argue that the average middle-class family is priced out of the sport.

As previously mentioned, the national sport organization Hockey Canada lost 8,000 players between 2008-09 and 2009-10, despite an increase in the number of girls' hockey participants (Campbell & Parcels, 2013). These alarming numbers result at least in part from the increasing cost of hockey. For young boys growing up in the 1940s and 1950s, hockey was very affordable; it used to be what is now termed "a mobility sport". A mobility sport is one that is cheap to play, with low costs for equipment and enrolment in organized competition (Kirby Letts & Steckley, 2013). Boxing and soccer are examples. Former National Hockey League (NHL) stars such as Gordie Howe, Johnny Bucyk, and Maurice "Rocket" Richard grew up in low income households in Canada during the Depression era, and went on to become NHL superstars (Kirby Letts & Steckley, 2013). This was attainable for working class boys because costs were not nearly as high they are today for male minor hockey players, especially those playing at the highest level such as boys' Triple A (AAA) in the Greater Toronto Hockey League (GTHL). Kirby Letts and Steckley attribute these rising costs to the professionalization of elite minor hockey, a theory that I will discuss further with regard to Vaz's research (1982).

In addition, Kirby Letts and Steckley mention how the rising cost of equipment contributes to the status of hockey as an elitist sport. They believe the high equipment costs are due to three factors. First, the extensive amount of equipment required (especially for goalies) and related safety issues; second, the relatively small global market for hockey with a concomitant lack of mass-produced equipment that triggers a spike in price once the gear hits the shelves. They claim that the third factor in the high cost of equipment is the influence of the NHL. Young boys grow up in Canada idolizing NHL superstars; so they will want to wear the

latest branded equipment that those players wear, or the closest thing to it, which obviously will cost more.

Kirby Letts and Steckley only discuss Canadian youth sports at the most basic level, and do not carry out any research of their own with regard to the topic, a limitation of this source. Yet they still offer good background information about the concepts of mobility and elitist sports in Canada, which I can investigate when examining the GSS to see if their arguments are externally valid and reliable.

Furthermore, a paradox exists between hockey's image and the reality. Every February, the NHL hosts "Hockey is For Everyone Month", in order to promote the sport to anyone who wants to play--a great marketing strategy to make the league seem more inclusive. In reality the notion that "hockey is for everyone" is an ideological construct crafted by the NHL to perpetuate the universal appeal of hockey, when it is only the priveleged few that are able to play or even watch.

Nowhere is the concept of hockey as an elite activity as apparent as it is at Toronto Maple Leafs games at the Air Canada Centre (ACC). The single ticket price of a Leafs game at the ACC is over $300 CDN (Costello, 2014), and prices increase for the games against the league's best teams (ticketmaster.ca). The average Leafs fan is relegated to watching the game on TV. The "fans" in the arena are often businesspeople who get company tickets, and are too busy eating sushi and cutting business deals in the platinum club seats to get involved in the excitement of the game and to experience the Durkheimian sense of cultural effervescence, or the collective joy of their team winning (Durkheim, 1912). The idea that "hockey is for everyone" was the case during the childhood of such players as Richard, Howe and Bucyk, but

sadly playing even amateur hockey is a pipe dream for many Canadian children growing up today. Of course, for females it has rarely been possible, regardless of their talent and ambition.

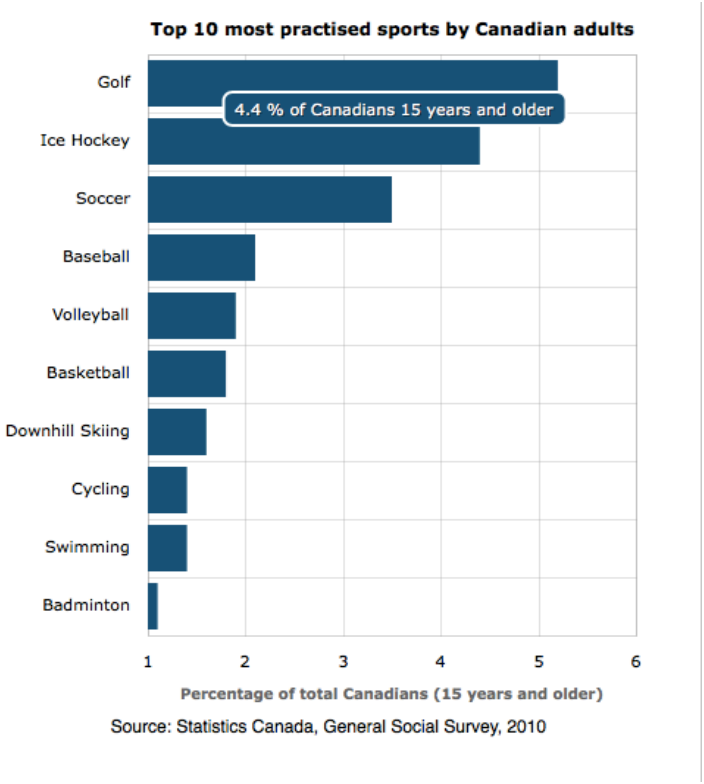
MacGregor (2012) supports Kirby Letts and Steckley's arguments in his newspaper article. He argues, "minor hockey, most especially at the competitive level, is fast becoming an elitist sport rather than, as it once was, the winter game of the masses", and that "hockey is becoming an opportunity only for those who can pay their way in" (p.1). He interviews parents and prominent members of the Canadian hockey community. Using information from a Royal Bank of Canada survey, MacGregor claims that the cost of youth minor hockey is the number one concern of the Canadian parents surveyed and the main reason, he claims, for static enrolment.

CBC's online interactive piece from 2013 (using data gathered from the GSS) states that while hockey participation among Canadian male youth is flat at best, participation is rising among female youth, with 10.7 times more females playing in 2013 than in 1990, a dramatic increase. One reason why this gender gap may be shrinking is the simple fact that girls' hockey is non-contact; no body-checking is allowed at any level, whereas it is allowed in boys' hockey in most levels across Canada after the age of 12 (CBC Sports, 2013). Therefore, parents would not have nearly the same safety concerns about their daughters playing hockey that they would for their sons. Speaking from my lived experience, I can also say that most levels of girls' hockey are not yet as expensive as boys' hockey, mostly due to less ice time, fewer travelling tournaments, and free admission for games (the boys-specific GTHL charges spectator admission for parents and friends alike; fans are being charged to watch minor hockey). Therefore, the financial obligation of minor girls' hockey would not be as great as it is for minor boys' hockey.

Comparative safety and relative affordability could be some reasons for the increase in female youth hockey participation.

While the CBC also carried out data analysis of the GSS, as I did, the interactive piece focuses mostly on the high cost of equipment to explain the difference in Canadian youth sports participation. CBC does not offer much in the way of an explanation for social class and sports participation, a gap in its report that I aim to rectify with my honours research. The CBC uses a bar graph to show the sport participation rates amongst Canadians aged 15 and up in Canada in 2013. This is shown below.

**Graph 1: Ten Most Popular Sports in Canada, 2010**




**Source: CBC Sports, Hockey, Canada's game, not its most popular, 2013**

Mirtle (2012) emphasizes the disturbing trends in Canadian youth hockey participation, supporting the analysis of the CBC and previously discussed authors. He claims in a newspaper article that in 2012, only 10 per cent of all Canadians between the ages of 5 and 19 played hockey, and that there were just 427,000 registered players during the 2011-2012 season, a slight decrease from the previous two seasons. As mentioned in the *Introduction,* participation rates fell even further in 2013 when participation was only 9.5% (Campbell & Parcels, 2013). Mirtle does offer hope for the future, however. He draws attention to a program implemented by Bauer Hockey, a major Canadian equipment manufacturing company. Bauer interviewed parents of non-hockey-playing children in Canada to determine why they were not enrolled in the sport. During the interviews, Bauer came up with four perceived barriers of youth minor hockey enrolment in Canada*: hockey is not fun; it is too much of a time commitment; safety concerns are prevalent.* The fourth perceived barrier of youth minor hockey enrollment is *that the sport is not affordable*. These are the same barriers that Kirby Letts and Steckley (2015) and MacGregor (2012) discuss (thefirstshift.ca). With this information, Bauer can focus on potential solutions.

### *Professionalization of Youth Sports: They Could Be Contenders (or Could They?)*

Vaz (1984) explores the professionalization of minor hockey in greater depth. By following various male youth hockey teams in Ontario during the winter of 1969-1970 using qualitative research methods, he was able to decipher the notion that youth minor hockey in Ontario was becoming more time-consuming and exclusive, supporting my previous references to hockey as an elitist sport. He writes, “hockey stars are made, not born and the minor leagues are where it begins” (p.15). He argues that the culture of professional sports leagues, such as the NHL, has penetrated the minor league system in Ontario. From a very young age, boys are coached as if they were already NHL superstars. Vaz believes that this is an ineffective coaching

method as it takes all the fun out of minor hockey, which he argues defeats the purpose of playing hockey. The ludic element disappears and ambition rules. While Vaz does not explicity engage with the research question I pose, he offers support for theories of minor hockey professionalization which previous researchers such as Kirby Letts and Steckley have claimed is the main reason for the socioeconomic differences in Canadian youth sport participation.

Despite being written in 1984, Vaz's theories and work remain applicable to minor hockey today, and arguably professionalization has intensified over the past 33 years. However, Vaz focuses exclusively on Ontario, and while Ontario does offer the best indication of minor hockey practices and participation due to its large population and vast number of hockey arenas, Vaz's failure to provide data for the rest of the country imposes serious limitations on his research. He also does not offer any insight into the structure of the girls' hockey game, perhaps because few girls in Canada played hockey in 1969-1970, and if they did, they would have played on boys' teams. Thus his findings for female minor hockey players would have been the same as the findings cited here for male minor hockey players.

Vaz's conclusions about minor hockey professionalization are matched in the qualitative research of Campbell and Parcels. Using semi-structured interviews, Campbell and Parcels (2013) interviewed the parents of former Canadian major junior hockey players as well as a few players themselves, in order to gather information on how much money was spent on playing competitive hockey. These interviews provide a first-hand, empirical account of the socioeconomic impacts that hockey can have on a family over the course of a single child's minor youth hockey-playing career.

Campbell and Parcels agree with Vaz that competitive (non house league) minor youth hockey in Canada is a poor return on investment. The authors did not discuss playing for

pleasure (in house league, and lower level competitive leagues) because families of children who play just for fun do not spend ludicrous amounts of money on the sport. The authors argue it is not worth the time and money players and parents invest, as only a few players, just 1 in 1,000, will play in the NHL. It is easier to win the lottery with a similar investment than it is to play even a single NHL game. Remaining at the NHL level is even harder, and fewer than half (49.4%) of the teenagers chosen to play for Canada every December at the World Junior (Under 20) Hockey Championships go on to play more than 400 games in the NHL. This is something that is achievable only for boys whose families have both the time and money to allow them to become super-elite players.

For an example, the researchers focus on one NHL star, Matt Duchene of Haliburton, Ontario. Duchene's father estimates that he spent $322,450 on Matt's 12-year minor hockey career, or $27,120.83 a year. The average annual income in Canada was just over $49,000 in 2014 (Statistics Canada, 2014). This supports Kirby Letts and Steckley's theory that hockey is an elitist sport that very few families in Canada can afford.

The continued shift towards the professionalization of elite youth sports is also seen in Dyck's (2012) ethnography of children's sports in Canada. Dyck interviewed Canadian athletes who go to American colleges on athletic scholarships with the hope of "making it" in their respective sports, despite statistics indicating that the majority of them will not play at the professional level. Many of the selected student athletes confided in him during the interview process, and said leaving Canada to play college-level sports was not worth it in the end. Most of these students achieved lower grades and were constantly tired due to the intense nature of being a college-level athlete. The college level was as far as many of these students got in their respective sporting careers, and they spent four years of their lives not getting a proper

education, being mired in stress and playing a sport that they would never play at the professional level. Dyck's ethnography underscores many of the aspects discussed by previous authors, such as the professionalization of youth sports, and it addresses the attempt to increase enrolment at the grassroots level, and overall sports participation levels in Canada. His research, along with the other studies previously discussed, helps to address my research question: *How has participation in Canadian minor hockey varied by socioeconomic class and gender over time?* Dyck's research guides me to formulate my hypotheses and analyze my data, which are discussed in the following sections.

## HYPOTHESES AND METHODS: HOW TO PROVE WHAT I SUSPECTED ALL ALONG

Due to time and budget, it was virtually impossible for me to replicate any of the previous studies or carry out my own study; therefore, I analyzed data from the GSS. One advantage of secondary data analysis as mentioned by Bryman and Bell (2012) is the ability to gain the same information for virtually no cost. My specific focus within the GSS was the Time Use/Time Stress and Well-Being sections, and more specifically, the sub-sections of time household children spent playing active sports, and the household demographics section.

This Statistics Canada survey was carried out in 1992, 1998, 2005 and 2010, using telephone interviews. Because this particular section is a recurring study done every five to seven years, I was able to do a repeated cross-sectional study. Because I am looking at Canada as a whole, my work provides an example of macro analysis (Agresti & Finlay, 2009). Statistics Canada used random digit dialing (RDD)—a type of stratified random sampling—in both 1998 and 2010 to carry out its cross-sectional quantitative research (Statistics Canada, 1998). Telephone numbers were selected using the Elimination of Non-Working Banks Technique. This sampling method attempts to identify all working banks for an area (i.e., identifying all sets of

100 telephone numbers with the same first eight digits, containing at least one number belonging to a private household). All telephone numbers within non-working banks were effectively eliminated from the sampling frame. RDD was chosen as the sampling method in order to reach the target population, and it allowed Statistics Canada to hone in on its specific sample of that population (*ibid).*

The only groups not included in the population are residents of the three territories, incaracerated Canadians, and those living full time in medical institutions. RDD is the most effective way to conduct a telephone survey as it includes unlisted numbers that would be missed if a phone book was used to select the sample population. Statistics Canada contacted and interviewed each respondent via a land-based telephone, a very effective, proven method of data collection. Households without telephone service were excluded from the survey, a percentage of only 1.1% of households in 2010. Households with only cellular service were also excluded; this represented 13% of the population in 2010. Despite the overall validity and reliabiliy of a government source, the lack of data from those living in the territories or households without a land line is a limitation of the GSS. Due to increases in population between 1998 and 2010, the sampling size is different in both years. The total sampling size for cycle 24 of the GSS is (n=15,390), and the sampling size for cycle 12 is (n=10,790). However, the difference in sample size does not matter overly much as I use population weights (the results of the sample weighted to match the total population) to carry out my analysis.

In both the 1998 and 2010 Time Use/Time Stress and Well Being Sections (cycle 12 and cycle 24) of the GSS, data were collected in six waves over an 11-12 month period from January to December. The sample was evenly distributed over this period to account for possible seasonal variations in the data. Because people spend their time differently each day of the week,

a telephone number was designated for a specific day, and cases were eligible for collection two days after the designated day. In both years, the response rate was over 50 percent; thus the results of the GSS are fairly accurate (*ibid*).

As previously mentioned, I use two separate data sets from the Time Use Survey/Time Stress and Well-Being study of the GSS, specifically the 2010 (Cycle 24) subsets, which is Household Children Members Sports, and Demographics (Household Income) and the 1998 subsets (Cycle 12), Household Members Sports and Demographics (Household Income) to answer my research question. This allows me to see how sports participation may have varied among a sample population of Canadians over a span of twelve years, a large enough time gap for me to be able to properly examine any differences. After the process of downloading the raw PUMF data sets from Nesstar and doing the preliminary analysis, variables emerge based on arguments made in the dominant literature that I analyzed in my literature review.

Thus, household income/socioeconomic status serves as the first independent variable. The GSS divides household income into 13 categories: No income or loss; Less than $5,000; $5,000 to $9,999; $10,000 to $14,999; $15,000 to $19,999; $20,000 to $29,999; $30,000 to $39,999; $40,000 to $49,999; $50,000 to $59,999; $60,000 to $79,999; $80,000 to $99,999; $100,000 to $149,999; and finally, a household income of $150,000 or higher. Age acts as the second independent variable (the GSS divided ages of household children playing sports into two categories in 2010: 0-9, and 10-14; and into five age categories: 0-4, 5-12, 13-18, 19-24 and 25 plus, in 1998. My third independent variable is the relationship to survey respondent (i.e., son or daughter, or other) (this allows to me look at the sex of youth playing sports); finally, my fourth independent variable is specific sports played by youth in the household.

I begin to show the bi-variate relationships by manipulating my data in the social science statistical software Stata. By manipulating the data, I can make the data fit my specific research needs. I first show these bi-variate relationships using contingency tables (cross-tabulations). I tested one independent variable against the dependent variable, starting with data from 2010 (Cycle 24). These tables, along with the frequency tables, are attached throughout and in the appendices.

After doing my initial cross tabulations, among age, household income and gender, and looking at the slope of the variables, it appears there is a linear relationship with at least some of the variables. I also use the chi squared test to analyze this relationship further. I then open the data set for cycle 24, and I see some sort of linear relationship exists between the explanatory variables and the dependent variable. Knowing this, I was able create my two hypotheses. They are as follows:

1) *the participation levels of male youth playing hockey in Canada has either declined or stagnated over time, while female participation has risen.*

2) *Youth hockey participation and household income have a positive relationship. As the hockey becomes more expensive, participation among high income families increases, while conversely, participation among low and middle class families decreases, thus creating a negative relationship for these poorer families.*

Alternatively, I need to create null or alternative hypotheses as well, which are as follows: *1: There is no relationship between playing hockey, age and gender*

*2: There is no relationship between playing hockey, age and household income*

Because I analyze two different time use cycles of the GSS, I need to create contingency tables for both 1998 and 2010. I can then graph my information into multiple graphs on Excel.

For household income and male and female participation rates, bar graphs appear to be the most appropriate type of graph. For the change in overall participation among Canadians youth, from 1998 to 2010, I use a scatterplot. Scatterplots are used for analyzing trends in data over a period of time (and for showing correlation and regression), which ultimately is the goal of my recurring time series research design (Bryman and Bell, 2012).

In Cycle 24 (2010), the GSS asks the respondent about the relationship between them and child A, B, C, or D who regularly participated in sports over the past year. Statistics Canada defines regular participation as at least once a week over the course of 12 months, or multiple times a week in season. Leisure activities such as aerobics, cycling, etc. were not included, ensuring that the sports played had to be a competitive activity. More detailed examples are included in the appendices (Statistics Canada, 1998).

The relationship of "household child A" ( the oldest child) to the respondent in Cycle 24 will be cross-tabulated with specific sports the children in a household play. I isolate ice hockey as the first sport to be examined; therefore, ice hockey acts as my first independent variable.

The contingency tables allow me to analyze the relationship of child A to the respondent, this being the son or daughter of the respondent in most cases. I repeat these steps for age (again the age of "household child A" is used for analysis), in order to explore the relationship between age and participation in ice hockey in Canadian households in 2010. Additionally, I create contingency tables for the other four most popular sports among youth in Canadian households: soccer, swimming, basketball and baseball (hockey is the third most popular sport).

I then cross tabulate my second independent variable, which is household income, with my dependent variable (the total amount of sports played by children in a Canadian household), in order to test this bi-variate relationship. I create contingency tables for the other bi-variate

relationships, household income to age, and household income to specific sport played. I start with hockey, and then I analyze the relationship between income and basketball, baseball, soccer and swimming.

Cycle 12 (1998) of the GSS has its own limitations. Cycle 12 asks the respondent many of the same basic sports questions as Cycle 24. However, it does not have a Household Children Members Sports subset and therefore does not isolate specific sports played by children in each household. It only examines household sports participation in general, which means I can only analyze the differences in overall sports participation in 1998 and 2010, and I cannot test for difference in specific sports.

As mentioned above, Cycle 12 does not offer a Household Children Members Sports subset; rather it aggregates all other household members who are not the survey respondent. Because of this, I use "Household Member B" to conduct my data analysis as "Household Member A" is often the spouse of the respondent. Because of the age correlates, I infer that "Household Member B" comprises children in the household, but I cannot guarantee this.

Additionally, I engaged in further analysis by exploring the relationships among age, sex, socioeconomic status and participation in other popular sports, in order to create an empirical comparison to youth ice hockey participation. I carried out tests of statistical significance, and/or correlation, including the chi squared test. I intend to show my findings using contingency tables and regression tables of my various models.

## FINDINGS: HOW DO I KNOW WHAT I KNOW?

After conducting the initial analysis of Cycle 24, I validated my predictions based on the literature, at least in part. The contingency tables tell me that there is a difference in youth male participation and female participation. Although the percentage gap between boys and girls who

play sports in Canada is fairly small (38% of boys in the households surveyed play sports compared to 32% of girls), the gender gap is considerable for certain sports, such as hockey.

After completion of Cycle 24 cross-tabulations of youth hockey participation with sex and age, I can infer that "Child A" is much more likely to be male. The cross-tabulation of Table 1 indicates that 73% of the 424,494 individuals (when population weight is accounted for) who played hockey in 2010 are boys, mostly between the ages of 10-14. In comparison, just 22% of girls in the same age bracket played hockey regularly in 2010. The final 4.6% of household hockey players are other relatives I have aggregated into one group as it is easier to isolate sex with a single "other" category.

Comparing Cycle 24 (2010) to Cycle 12 (1998) as seen in Table 2, one can see how the gender gap in sports participation has decreased over time, with 34% of all girls playing sports in households surveyed in 1998 compared to 39% of girls who played sports in 2010, as noted. In contrast, fewer boys appear to play sports in 2010 than in 1998—there is a decrease of 2% over the 12-year period, allowing a plausible claim that youth male sports participation in Canada has decreased, whereas the percentage of girls playing sports in Canada has increased by 5% over the same period. However, an additional 11% of participants in 1998 are siblings of the respondent, and the gender or age is not specified. Based on probable demographics, I can assume that the majority of these siblings are male; however, since I cannot tell with certainty, I cannot report on this 11%. My preliminary results support the observation that youth male sports participation, and possibly hockey participation, is at the very least stagnant, or even decreasing over time. The initial results lead me to hypothesize that more girls overall are playing sports regularly in Canada in 2010 compared to 1998, but there may not necessarily be more girls playing hockey regularly. These initial results are shown on the following pages.

**Table 1: A Cross Tabulation of Gender, Age and Youth Hockey Participation, 2010**

| Relationship of household child A who regularly participates in sports, to respondent in 2010 | Participation in hockey (ice) by at least 1 child in the household in 2010 | Total | Percentage |
|---|---|---|---|
| Son | 309,458.70 | 309,458.70 | 72.9 |
| Daughter | 95,319.57 | 95,319.57 | 22.45 |
| Other relative | 19,715.75 | 19,715.75 | 4.6 |
| Total | 424,494 | 424,494 | 100 |
| **Age group of household child A who regularly participates in sports (groups of 5) in 2010** | **Participation in hockey (ice) by at least 1 child in the household in 2010** | **Total** | **Percentage** |
| 5 to 9 | 157,807.35 | 157,807.35 | 37.17 |
| 10 to 14 | 266,686.60 | 266,686.60 | 62.82 |
| Total | 424,494 | 424,494 | 100 |

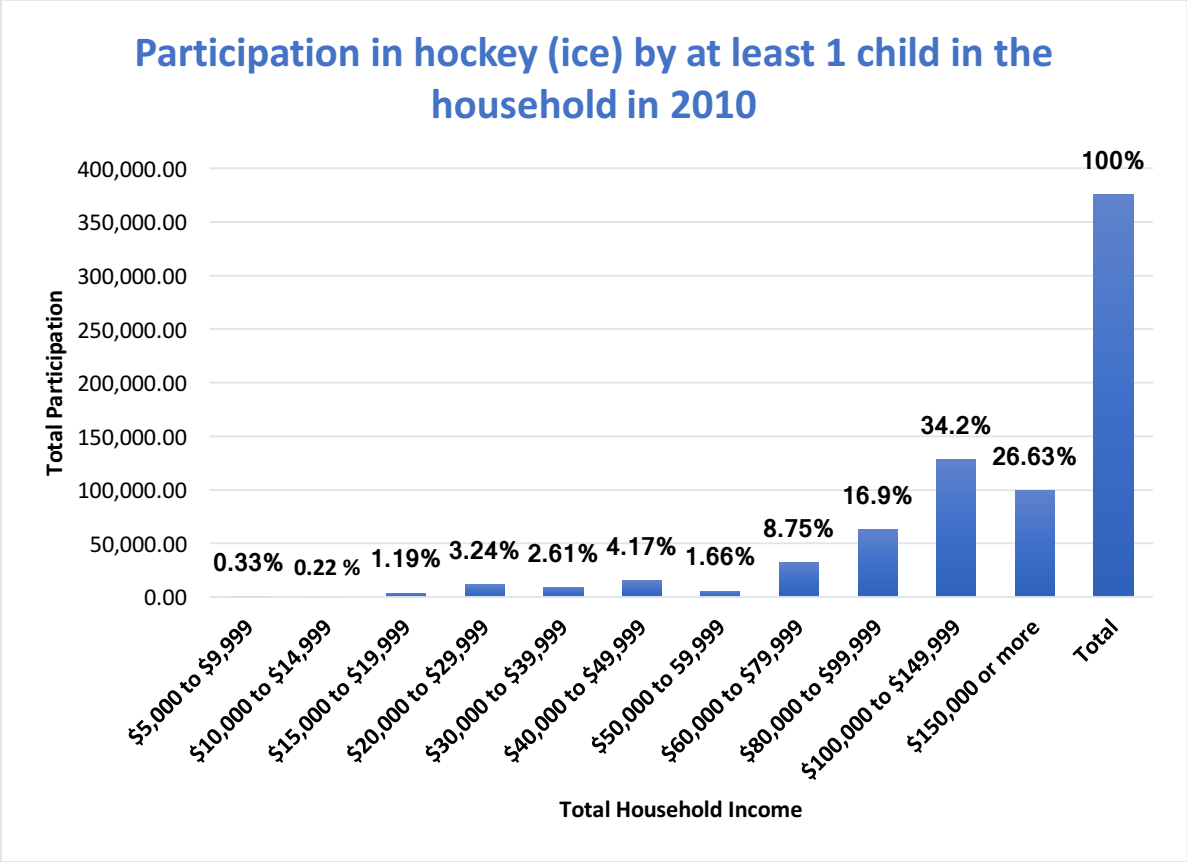
I created cross tabulations only for hockey, age and gender and sports participation as hockey is the main focus of my thesis. By creating these initial contingency tables, I can see the makings of a linear relationship between my dependent variable and my independent variables. This linear relationship was confirmed when I ran the chi square statistic in Stata.

**Table 2: A Cross Tabulation of Gender and Sports Participation, 1998 and 2010**

| 1998- Relationship of Household Member A who regularly participates in sports to respondent | Percentage | 2010- Relationship of household child A who regularly participates in sports to respondent | Percentage |
|---|---|---|---|
| Son | 43.00 | Son | 41 |
| Daughter | 34 | Daughter | 39 |
| Other relative | 1.21 | Other relative | 20 |
| Mother | 3.39 | Total | 100 |
| Father | 2.23 | Not asked | N/A |
| Sibling | 10.77 | Not asked | N/A |
| Spouse or partner | 3.59 | Not asked | N/A |
| Non household member | 2.35 | Not asked | N/A |
| Total | 100 | | 100 |

These results are solid yet limited, as I still cannot tell if/how household income affects the sport played. In order to test this, I created cross tabulations for hockey participation and household income, and then graphed this relationship. I repeated these steps for basketball, baseball, soccer and swimming, all using information from Cycle 24. Unfortunately, Cycle 12 does not gather data on specific sports played; rather it asks for general sports participation based on age and gender. This is a major limitation of my analysis and because of this, I was not able to test for statistical significance and therefore was unable to completely answer my research question. However, looking at sports participation and household income in 2010 allows me to see whether social class and sports participation are related. The graph for hockey and household income is shown below.

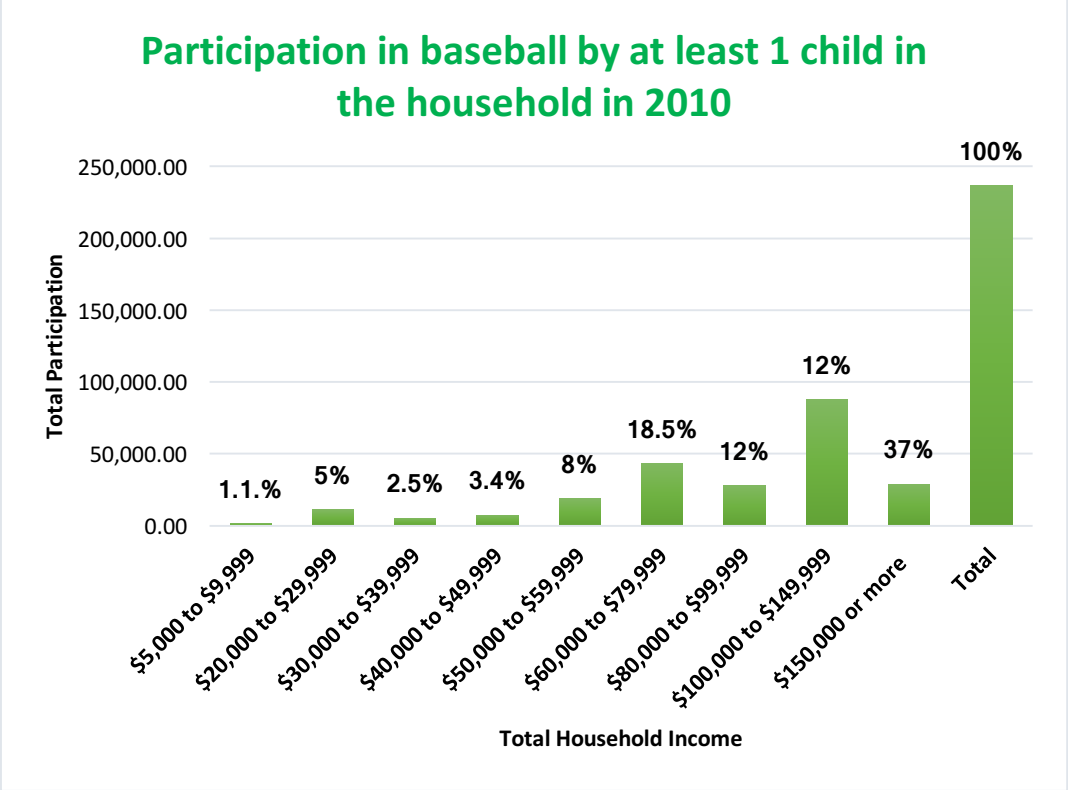
**Graph 2: Youth Hockey Participation and Household Income, 2010**




*Source: Statistics Canada, General Social Survey, 2010*

This graph shows that the income gap with regard to youth hockey participation appears to be fairly high, with 61% of all children who played hockey in Canada in 2010 coming from upper middle class, or upper class families whose household income was $100,000 a year or more; these are children from the highest two income brackets as seen on the graph. These children are from families whose income was considerably more than the median total household income of $77,900 for families of one or more people with children in Canada in 2010 (Statistics Canada). Baseball participation is somewhat more evenly distributed, with fewer than half, (just 49.5%) of children who played baseball in 2010 originating from families whose household income was at least $100,000 a year. This is shown in Graph 3.

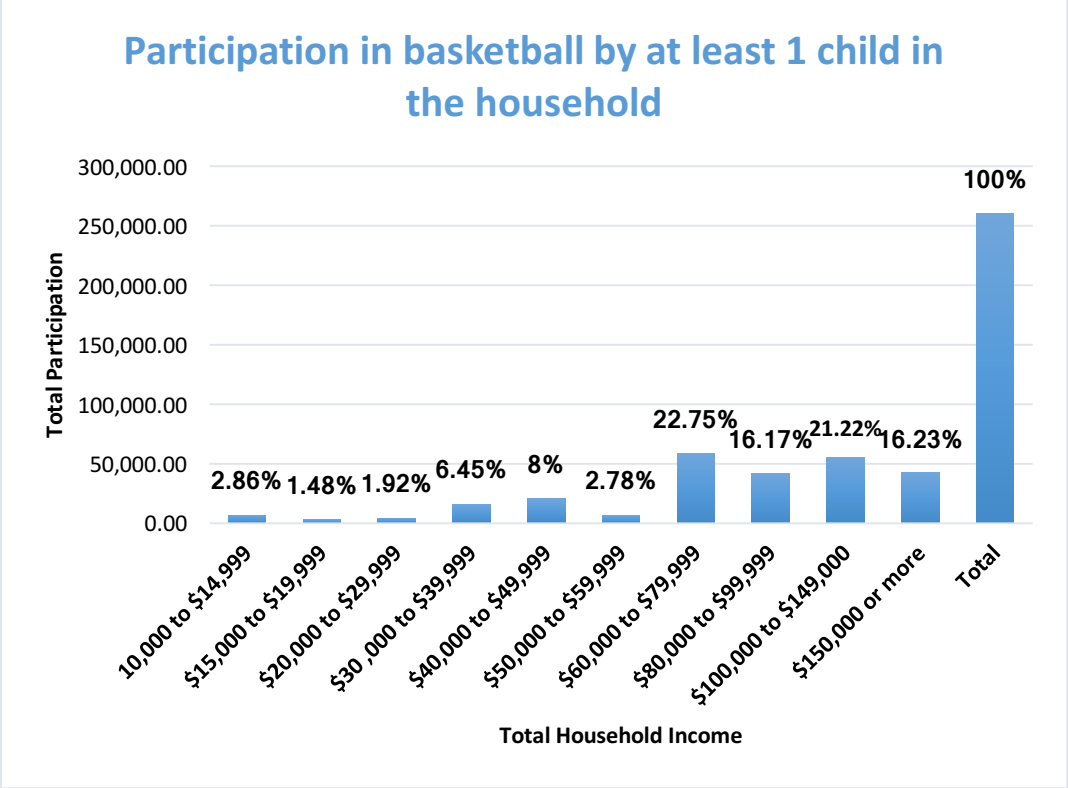
**Graph 3: Youth Baseball Participation, and Household Income, 2010**




*Source: Statistics Canada, General Social Survey, 2010*

Basketball participation among Canadian youth is less economically divided, as just 37% of all children who played basketball in 2010 were from families whose household income was at $100,000 per year or greater. The graph for youth basketball participation and household income is shown on the following page (Graph 4).

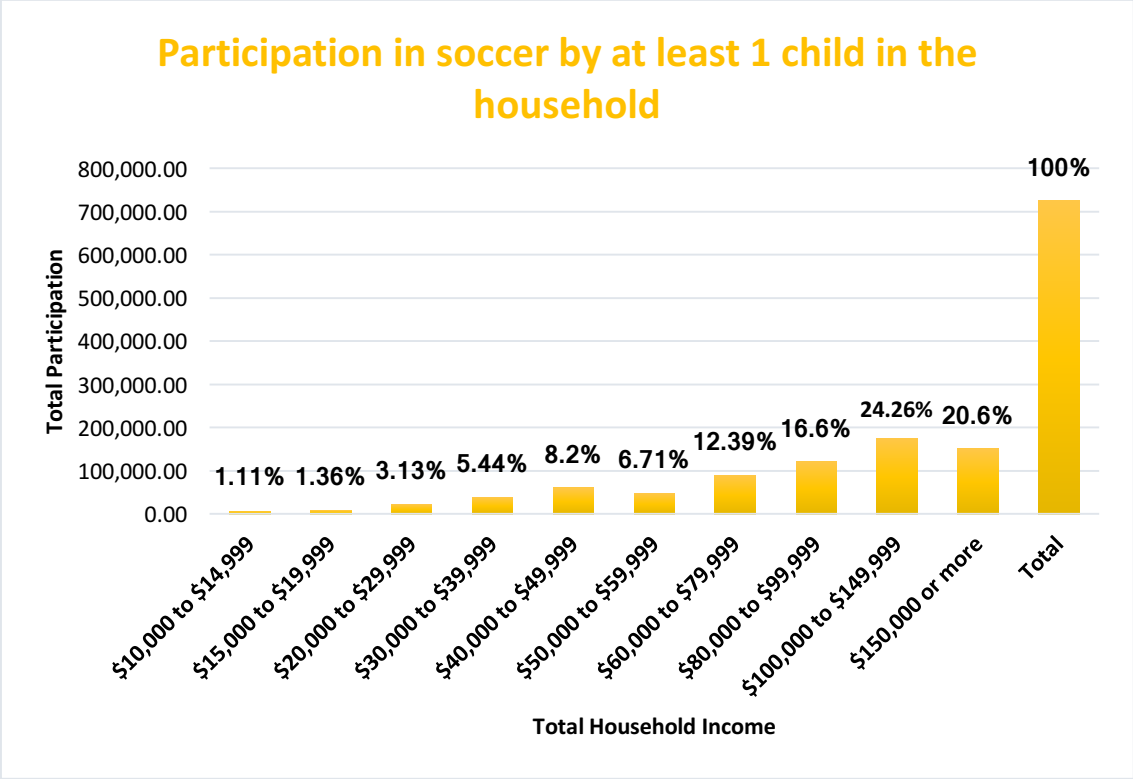
**Graph 4: Youth Basketball Participation and Household Income, 2010**




*Source: Statistics Canada, General Social Survey, 2010*

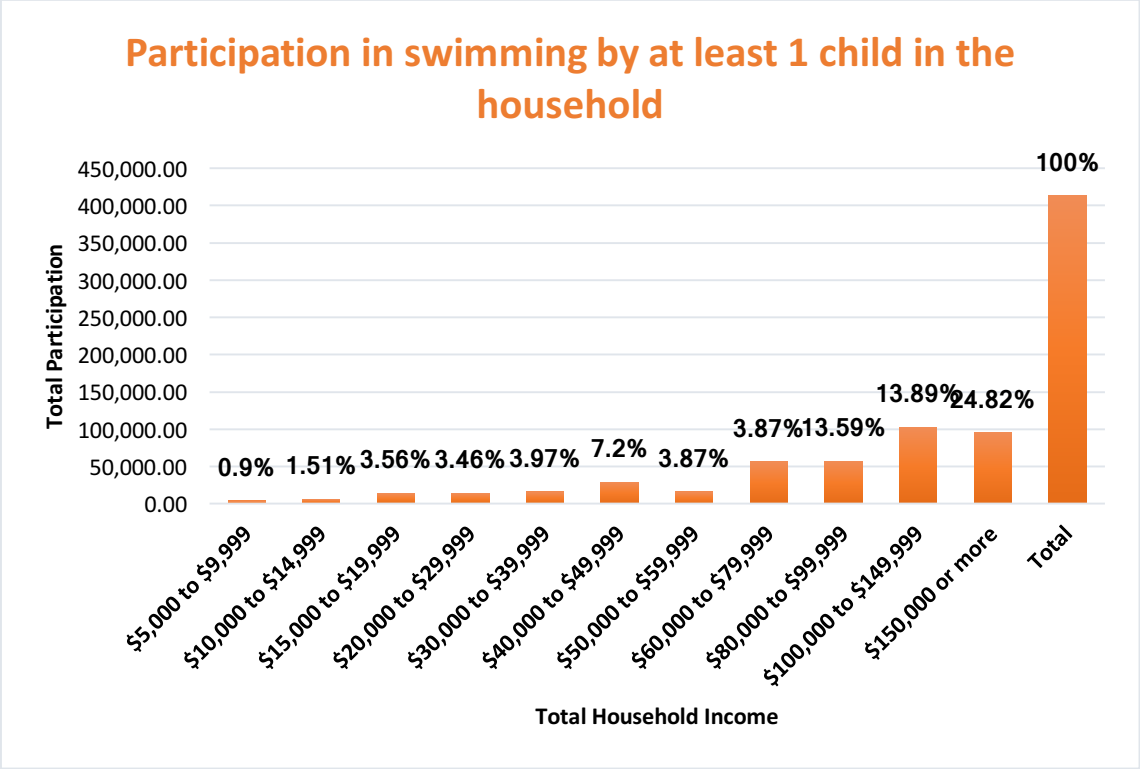
Soccer and swimming are also less economically divided than hockey in terms of participation and social class, with fewer than 50% of children who swam (37%) and played soccer (45%) in 2010 being from families whose household income was at least $100,000 a year. These graphs are shown on the following two pages (Graphs 5 and 6).

**Graphs 5: Youth Soccer Participation and Household Income, 2010**




*Source: Statistics Canada, General Social Survey, 2010*

**Graph 6: Youth Swimming Participation and Household Income, 2010**




*Source: Statistics Canada, General Social Survey, 2010*

In order to answer my research question and test my hypotheses, I need to test for a linear relationship among age, gender and sports participation, for cycle 24 and 12 respectively. I used the chi squared statistic for both data sets to show the relationship between my dependent and independent variables. Unfortunately, the chi squared statistic cannot be run in Stata using population weights, and it only uses the sample of participants as opposed to population weights. However, the cross tabulations and graphs I have shown previously do use the weights, thus compensating for any inaccuracies that may have occurred when using the chi squared test with just the sample size.

This supports much of the previous research on sports participation rates in Canada. I have started with cycle 24 first as it isolates for individual sports, so that I could get a sample of

what specific sports participation looked like, and since I already had the data set open, it made sense to continue with the chi squared tables for general sports particiption. The chi squared table (table 3) for sports participation and household income in cycle 24 can be found in the appendices *(see Appendix c)*.

The p-value of this first chi square table is 0.00 (shown as Pr), meaning that the relationship between household income and sports participation in 2010 is highly significant. Therefore, I can say that the number of children that play sports in a Canadian household in 2010 depends on the family household income.

I then repeated the steps for age, gender and youth sports participation, continuing on with cycle 24. The tables are seen on the following two pages (Tables 4 and 5).

**Table 4: Chi Squared Table of Gender and Sports Participation, 2010**

| Number of household child (children) who regularly participate in sports | Relationship of household child A to respondent (Son) | Relationship of household child A to respondent (Daughter) | Other Relative | Total |
|---|---|---|---|---|
| One child | 313 | 255 | 18 | 586 |
| Two children | 165 | 144 | 4 | 313 |
| Three children | 20 | 30 | 1 | 51 |
| Four children | 5 | 6 | 1 | 12 |
| No children participated | 153 | 179 | 13 | 345 |
| Total | 656 | 614 | 37 | 1,307 |

**Pearson chi2(8) = 15.50** **Pr= 0.05**

**Table 5: Chi Squared Table of Age and Sports Participation, 2010**

| Number of household child (children) who regularly participate in sports | Age group of household child A who regularly participates in sports (groups of 5) (5 to 9) | Age group of household child A who regularly participates in sports (groups of 5) (10 to 14) | Total |
|---|---|---|---|
| One child | 287 | 299 | 586 |
| Two children | 119 | 197 | 313 |
| Three children | 6 | 45 | 51 |
| Four children | 2 | 10 | 12 |
| No children participated in sports | 180 | 165 | 345 |
| Total | 591 | 716 | 1,307 |

**Pearson chi2 (4) = 45.477 Pr =0.00**

Upon examination of these two chi squared tables, it appears that my final two independent variables (gender and age) and my dependent variable (sports participation) are statistically significant. Surprisingly, age and sports participation are more statistically significant with a p-value (Pr) of 0.00, than gender and sports participation which are only statistically significant at the lowest level (0.05) of significance, meaning that in 2010, a child's age was a better indicator of whether or not they played sports than their gender. As one can see on the table, children between the ages of 10 and 14 were the most likely to play sports in 2010. The chi square table (Table 6) for gender and sports participation is attached to the appendices *(see Appendix C)*.

Because I am looking at possible changes in participation over time, I needed to create chi squared tables for all my variables using cycle 12, from 1998. The first chi squared table

(Table 3) which looks at gender and sports participation, is attached to the appendices (*see Appendix c)*. The first chi squared table for cycle 12 gives me a p-value of above 0.05 (Pr=0.069), meaning that gender and sports participation were not statistically significant in 1998, as they were for 2010, and that any difference that may have occured between gender and sports participation was due to chance. Because gender and sports participation were only slightly significant in 2010, I can assume that in both years, gender probably does not affect whether or not a child plays sports in general, but rather the specific sport(s) a child plays. I then repeated the steps for age and sports participation. This chi squared table is seen below (Table 7).

**Table 7: Chi Squared Table of Age, and Sports Participation, 1998**

| Number of other household members who regularly participate in sports | Age group of household member B who regularly participates in sports to respondent (Between 0 and 4) | Age group of household member B who regularly participates in sports to respondent (Between 5 and 12) | Age group of household member B who regularly participates in sports to respondent (Between 13 and 18) | Age group of household Member B who regularly participates in sports to respondent (Between 19 and 24) | Age group of household Member B who regularly participates in sports to respondent (25 and up) | Total |
|---|---|---|---|---|---|---|
| Two Members | 33 | 427 | 169 | 76 | 106 | 811 |
| Three Members | 7 | 178 | 81 | 21 | 31 | 318 |
| Four members | 1 | 40 | 40 | 9 | 7 | 97 |
| Total | 41 | 645 | 290 | 106 | 144 | 1,226 |

**Pearson chi2(8) = 29.03** **Pr = 0.00**

As one can see from this chi squared table, age and sports participation once again are highly statistically significant (Pr=0.00), meaning that from 1998 to 2010, a child's participation in sports greatly depended on their age. Last, I need to test for a linear relationship between

household income and sports participation in 1998. This table (Table 8) is attached to the appendix.

Therefore, regarding sports participation, age and household income are highly statistically significant over time (both 1998 and 2010 GSS show this), and gender is only somewhat significant over time. Simply put, sports participation across time is largely dependent on how old a child is and their household or family income. Gender may slightly affect general sports participation over time, but it is more likely that gender affects participation levels of specific sports across time.

DISCUSSION: WHAT DOES IT ALL MEAN?

Examining the first two contingency tables, I can see that girls' sports partcipation has increased by 5% over the 12-year time period. This supports the findings from the Heritage Canada Sport Research Paper, which stated that more girls are playing sports than before, and therefore the gender gap in overall sports participation has decreased. Because the Sport Research Paper surveys participation in tournaments specifically (competitions that take place over a single weekend), and not regular league play, I cannot say with certainty whether these findings match those found in the Research Paper. However, I do not imagine that single tournament participation and regular league participation levels are very different.

Additionally, the interactive web page by the CBC supports the claims made by the Research Paper as well as my findings. CBC goes beyond the Research Paper in that it examines hockey participation specfically, which the Research Paper fails to do. It is logical that both the Research Paper and the CBC support my claims as they also use data from the 2010 GSS. CBC goes ones step further and claims that not only has the gender gap in youth sports participation in Canada decreased, but the gap with regard to hockey participation has decreased as well. My

contingency tables for 2010 stated that only 22% of youth hockey participants in Canada were girls. In contrast, 73% of all youth hockey players in 2010 were boys. Because the data set does not allow me to examine hockey participation rates from 1998, I cannot tell with certainty if the participation gap with regard to hockey has decreased; however, with 5% more girls playing sports in 2010 than in 1998, and 2% fewer boys playing, I can reasonably assume that many of the girls who played sports in 2010, were playing hockey, thus supporting the CBC's analysis.

Unfortunately, because cycle 12 of the GSS did not account for specific sports played, and rather took an aggregate of all sports participation, I cannot say how youth hockey participation has varied over time by socioeconomic class and gender. Based on my cross tabulations, however, I am able to see how children from various socioecnomic backgrounds might play certain sports. For example, going back to graph #1, one can see how minor hockey enrollment is concentrated in upper middle class/upper class families. As mentioned earlier, most of the children who played hockey in Canada were from familes whose household income was at least $100,000 a year, well above the average household income in Canada. Hockey participation among children in families with incomes lower than $100,000 was less prevalent in 2010. Although I could not compare the two cycles to test for any changes that may have occurred over time, the bar graph demonstrates that hockey has become a sport to which the more priveleged few have disproportionate access, thus supporting the concept of hockey as an elitist sport articulated by Kirby Letts, Steckley, MacGregor and Mirtle and previously analyzed in this thesis.

The dichotomy between mobility sports and elitist sports is apparent when examining graphs 2-5, which show household income and baseball participation levels, basketball participation levels, swimming, and soccer participation levels in 2010, respectively. Examining

these graphs, one can see how sports participation levels with regard to baseball, basketball, soccer and swimming are more evenly distributed. This means that children from most socieconomic backgrounds could afford to play; it is not just the wealthiest children playing. This further illustrates that hockey is an elitist sport, and that children who are being priced out of hockey are playing mobility sports, particularly basketball. It must be noted that higher socioeconomic status is nevertheless associated with access across sports.

Despite more children from middle class and working class families playing mobility sports, children from poor families are completely left out of the equation. Marginalized youth living with poverty continue to be marginalized in the system of cultural capital that is sport. Notwithstanding mobility sports being more accessible for the average Canadian family, they still require time and money, two of the perceived barriers that Mirtle discusses in his examination of minor hockey enrollment. These barriers, while a large factor in disproportionate access to youth hockey enrollment, go beyond hockey participation. Based on my initial cross tabulations and graphs of the five most popular sports among Canadian youth in 2010 and household income, poor kids are not playing organized sports at all, with little regard for the degree to which a given sport is a mobility sport. Effectively, while hockey is the most elitist, baseball, basketball, soccer and swimming are still mostly played by children who appear to be of middle class backgrounds. Children from poorer families, whether they are from immigrant families, a racialized community or single parent homes, are hardly playing organized sports at all. Their families simply lack the necessary resources for sports participation in Canada, notably, time, money and reliable transportation.

This supports Vaz's theory of professionalization. While Vaz's focus was minor hockey in Ontario, professionalization can be used to examine other sports as well. Although the other

sports I have examined are not as expensive as hockey, there still is some sort of professionalization, which could contribute to the overall absence of poor youth playing sports, even the "cheap ones". Swimming at the competitive level, for example, requires very early morning start times and travel, something that would be difficult for a single parent to do, especially if the single parent needs to pick up extra shifts at work to provide for their family. The intense schedule that competitive swimming requires, even at a young age, can be equated to the professionalization of swimming, a sport that becomes exclusive solely because of the massive time commitment and travel demands that it puts on a family. Thus, despite a sport like swimming being a "mobility sport" with more evenly distributed youth participation than hockey, the professionalization factor means that children from poor families may be denied the opportunity to participate. Increased professionalization helps to explain why hockey participation, or sports participation in general, may have decreased over time.

When looking at the chi squared table for household income and sports participation for both cycles (Tables 3 and 8) one can see that children from the families in the highest income brackets were more likely to play sports than children from the lowest income brackets, offering support for Wilson's theory that economic capital affects sports participation levels.

Additionally, *twice as many* individuals played sports in 1998 (n=2,455) than in 2010 (n=1,227). This supports the findings of the Sports Research Paper which showed that sports participation is decreasing overall. One limitation of doing a comparative analysis between these two data sets is that cycle 12 of the GSS does not isolate youth sports participation in general; rather it aggregates all household members. Hence I cannot determine with certainty what the differences are in youth sports participation between cycle 12 and cycle 24. However, I can assume, based on the overall decrease in sports participation during the 12 years, that more

children played sports in 1998 compared to 2010, possibly due to the increase in the cost of sports. I can infer the cost of sports is the main factor affecting sport participation levels, because household income and sports participation have very strong p-values of 0.00 for both cycles, and because fewer children played sports in 2010 than in 1998, thus supporting previous research, namely the Heritage Canada Sport Research Paper, and the interactive webpage by the CBC.

## CONCLUSION: WHAT NOW?

Overall, I was able with reasonable confidence to answer my research question, which asked *how has participation in Canadian minor hockey varied by socioeconomic status and gender over time?* Unfortunately, due to the omission by Statistics Canada to isolate specific sports participation levels in 1998, I cannot fully answer my research question or fully support either of my hypotheses, which stated:

*1) the participation levels of male youth playing hockey in Canada has either declined or stagnated over time, while female participation has risen.*

*2) Youth hockey participation and household income have a positive relationship. As hockey becomes more expensive, participation among high income families increases, while conversely, participation among low and middle class families decreases, thus creating a negative relationship for these poorer families.* Not being able to test for differences in youth hockey participation over time is a major limitation of my study, as ultimately, I was not able to complete my intended analysis.

Nevertheless, based on the contingency tables and graphs I created for youth hockey participation in 2010, and trends highlighted in the research I examined, I can assume that both hypotheses are true. However, because I cannot test the multivariate linear relationships among hockey participation, social class, and gender, I cannot be certain.

Although I was unable to test for hockey participation specifically, I was still able to use statistical analysis to get an accurate depiction of the relationship among gender, age and social class with regard to overall youth sports participation in Canada over time. I believe my research study is socially significant, as it helps to explain gaps I found in previous literature. Specifically, my research study offers explanations for the strong relationship between age and sports participation levels, a topic of much discussion in previous work on sports participation levels in Canada. Should I wish to expand on this for future research, I could use the GSS to analyze the differences in sports participation by province over time, which could allow me to see not only what the differences in sports are with regard to age, gender and social class, but where these differences are located. This framework would give me an even better indication of youth sports participation rates across the country.

Additionally, my research holds social significance as it helps individuals to understand a growing problem in Canada--an overall decrease in sports participation, particularly among Canadian children. This is important because it can help to explain why obesity rates have increased across the country, particularly among poorer children. As Durkheim theorized, sports also create a sense of social cohesion, collective effervescence, thereby contributing to social bonds and strong friendships. If youth sports participation rates across Canada continue to decrease, then obesity may continue to increase and children could experience anomie and isolation.

Sports are not only good for physical health, but for mental health as well. Yet, many public schools and community centres are experiencing budget pressures, and sports teams and free drop-in sports programs are threatened. Funding for free sports programs needs to be increased, so that all children, regardless of socioeconomic status, can have the opportunity to

play sports. My thesis has made a strong cautionary case for social attention to sport accessibility for all youth. This renewed focus will help to ensure that even so-called “mobility sports” really are, in fact, available and accessible to everyone, regardless of social class.

References

Bourdieu, P. (1991). Sport and social class. In Mukerji C. & Schudson M. (Eds.), *Rethinking Popular culture: contemporary perspectives in cultural studies* (pp. 357-372). Berkeley: University of California Press.

Bryman, A., Bell, E. & Teevan, J. (2012) *Social research methods.* Oxford: Oxford University Press.

Campbell, K., & Parcels, J. (2013). *Selling the dream: How hockey parents and their kids are paying the price for our national obsession*. Toronto, Penguin Canada Books Inc.

CBC News. (2013). [Graphs, tables and interactive photographs CBC News, September 30, 2013]. Hockey, Canada's game, not its most popular. Retrieved 12 November 2015, from http://www.cbc.ca/news2/interactives/sports-junior/

Dunning, E., & Elias, N. (2008) Quest for excitement: Sport and Leisure in the Civilizing Process. In Dunning, E. (Ed.), *The collected works of Norbert Elias* (2nd ed). (volume 7) Dublin, : University College Dublin Press. (Originally published in 1986).

Dyck, N. (2012). *Fields of play: An ethnography of children's sports*. Toronto: University of Toronto Press.

Heritage Canada. (2013). *Sport participation 2010 research paper*. Retrieved from http://publications.gc.ca/collections/collection_2013/pc-ch/CH24-1-2012-eng.pdf

Jedwab, J. (2007) Giving hockey's past a future: When identity meets demography in Canadian sports. *International Journal of Canadian Studies, 35,* 191-214.

Kirby Letts, G., & Steckley, J. (2013). Social inequality. In *Elements of sociology: A critical Canadian introduction.* Toronto: Oxford University Press.

MacGregor, R. (2012, November 30). Increasingly high cost of hockey is making the game an elitist sport. *The Globe and Mail*. Retrieved 12 February 2015, from http://www.theglobeandmail.com/sports/hockey/increasingly-high-cost-of-hockey-is-making-the-game-an-elitist-sport/article5864491/

Mirtle, J. (2012, October 3). Bauer takes on sagging minor hockey enrolment. Retrieved 24 October 2014, from http://www.theglobeandmail.com/sports/hockey/bauer-takes-on-sagging-minor-hockey-enrolment/article4587897/

Lüschen, G. (1967). The sociology of sport. *Current Sociology, 15*(3), 5-29.

Statistics Canada. (1998) *General social survey-time use (GSS).* Retrieved from http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&Id=5249#a1

Statistics Canada. (1998). *General social survey 1998-cycle 12-time use survey (questionnaire package)* [data file]. Retrieved from http://www23.statcan.gc.ca/imdb/p3Instr.pl?Function=getInstrumentList&Item_Id=33571&UL=1V&

Statistics Canada. (2010). *General social survey-2010 overview of time use by Canadians.* Retrieved from http://www.statcan.gc.ca/pub/89-647-x/89-647-x2011001-eng.htm

Statistics Canada. (2010). *General social survey, 2010 cycle 24-time-stress and well- being main survey-questionnaire package.* Retrieved from http://www23.statcan.gc.ca/imdb-bmdi/instrument/4503_Q1_V5-eng.pdf

Statistics Canada. (2016). *Tables by subject: income, pensions spending and wealth.* [data file]. Retrieved from http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/ind01/l2_3868-eng.htm

The First Shift. description. (n.d). Retrieved October 19, 2016 from http://www.thefirstshift.ca/program-overview/description/

Tomlinson, A. (2004). Pierre Bourdieu and the sociological study of sport: Habitus, capital and field. In Giulianotti, R. (Ed.), *Sport and modern social theorists* (1st ed., pp. 161-171). New York: Palgrave MacMillan.

Vaz, W. E. (1982). *The professionalization of young hockey players*. (1st ed). Lincoln, NE: University of Nebraska Press.

Warde, A. (2006). Cultural capital and the place of sport. *Cultural Trends*, *15* (2-3), 107-122.

Wilson, T. (2002). The paradox of social class and sports involvement: The roles of cultural and economic capital. *The International Review for the Sociology of Sport, 37*(1), 5-16. Retrieved from http://irs.sagepub.com/content/37/1/5.full.pdf html

Appendix A

SAMPLE QUESTIONS FROM THE 1998 GSS

**J7** **Did other members of your household regularly participate in any sports during the past 12 months?**
*Regularly means at least once a week during the season or for a certain period of the year.*
***Exclude:***
*Aerobics/Dancercize/Jazzercize, Aquafit, Bicycling for recreation/transportation, Body Building, Car Racing, Fishing, Hiking, Jogging, Lawn Bowling, Motorcycling, Skate Boarding, Snowmobiling, Walking.*

<1> Yes
<3> No *Go to J9*
<r> Refused *Go to J9*

**J8@** **Who?** *[CATI]: print household roster (Maximum of 4 members)*

Source: *1998 General Social Survey, Time Use, Section J: Sport*

**J8@#** **For which sports?** *(Maximum of 4 sports/ per member)*

<65> Other sport
<r> Refused *Go to J9*

*[CATI]: Ask next question after each sport listed*

**J8@#** **How often?** *(for each sport)*

<1> 2-3/month
<2> 1-2/wk
<3> 3+/wk

**J9** **Do you or other members of your household belong to a sport club, local community league or other local/regional amateur sport organization?**

<1> Yes
<3> No *Go to J11*
<r> Refused *Go to J11*

**J10** **Who?** *[CATI]: print the household roster (Maximum of 4 members)*

<r> refused

Source: *ibid*

| # J8MEMT: Number of other household members who regularly participate in sports | |
|---|---|
| **Information** | [Type= discrete] [Format=numeric] [Range= 1-4] [Missing=*/7/9] |
| **Statistics [NW/ W]** | [Valid=3161 / 8264453.682 ] [Invalid=7588 / 15995682.902 ] |
| **Universe** | Respondents who answered J7 = 1. |
| **Literal question** | Number of other household members who regularly participate in sports. |
| **Interviewer's instructions** | Ask next question after each household member listed [Note: for the next two questions the symbol @ represents the household member (person a to d) and the # represents the sport (1 to 4)] |

| Value | Label | Cases | Weighted | Percentage (Weighted) |
|---|---|---|---|---|
| 1 | One member | 1923 | 4906977.8 | 59.4% |
| 2 | Two members | 818 | 2230756.2 | 27.0% |
| 3 | Three members | 318 | 849061.3 | 10.3% |
| 4 | Four members | 102 | 277658.4 | 3.4% |
| 7 | Not asked | 7040 | 14307913.9 | |
| 9 | Not stated | 548 | 1687769.0 | |

*Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.*

| # J8MEMB: Relationship of household member B who regularly participates in sports, to respondent | |
|---|---|
| **Information** | [Type= discrete] [Format=numeric] [Range= 1-8] [Missing=*/97/98/99] |
| **Statistics [NW/ W]** | [Valid=1227 / 3321953.484 ] [Invalid=9522 / 20938183.1 ] |
| **Universe** | Respondents who answered J7 = 1. |
| **Literal question** | Relationship of household member B who regularly participate in sports, to respondent. |

| Value | Label | Cases | Weighted | Percentage (Weighted) |
|---|---|---|---|---|
| 1 | Spouse or partner | 51 | 119295.3 | 3.6% |
| 2 | Daughter | 440 | 1121778.1 | 33.8% |
| 3 | Son | 548 | 1417936.6 | 42.7% |
| 4 | Mother | 36 | 112709.1 | 3.4% |

Source: *ibid*

**# J8MEMB: Relationship of household member B who regularly participates in sports, to respondent**

| Value | Label | Cases | Weighted | Percentage (Weighted) |
|---|---|---|---|---|
| 5 | Father | 22 | 74142.7 | 2.2% |
| 6 | Sibling | 92 | 357830.2 | 10.8% |
| 7 | Other relative | 9 | 40109.6 | 1.2% |
| 8 | Non household member | 29 | 78152.0 | 2.4% |
| 97 | Not asked | 8963 | 19214891.7 | |
| 98 | Don't know | 0 | 0.0 | |
| 99 | Not stated | 559 | 1723291.4 | |

*Warning: these figures indicate the number of cases found in the data file. They cannot be interpreted as summary statistics of the population of interest.*

**# J8AGRB: Age group of household member B who regularly participates in sports**

| | |
|---|---|
| **Information** | [Type= discrete] [Format=numeric] [Range= 1-5] [Missing=*/7/8/9] |
| **Statistics [NW/ W]** | [Valid=1226 / 3320921.443 ] [Invalid=9523 / 20939215.14 ] |
| **Universe** | Respondents who answered J7 = 1. |
| **Literal question** | Age group of household member B who regularly participate in sports. |

| Value | Label | Cases | Weighted | Percentage (Weighted) |
|---|---|---|---|---|
| 1 | Between 0 and 4 years | 41 | 85990.9 | 2.6% |
| 2 | Between 5 and 12 years | 645 | 1475739.0 | 44.4% |
| 3 | Between 13 and 18 years | 290 | 914336.9 | 27.5% |
| 4 | Between 19 and 24 years | 106 | 430057.9 | 12.9% |
| 5 | 25 years or more | 144 | 414796.8 | 12.5% |
| 7 | Not asked | 8963 | 19214891.7 | |
| 8 | Don't know | 0 | 0.0 | |
| 9 | Not stated | 560 | 1724323.5 | |

Source: *ibid*

Appendix B

SAMPLE QUESTIONS FROM THE 2010 GSS

SPC_Q120[J].HMS_Q105 **Did ^piChildName regularly participate in sport during the past 12 months?**

INTERVIEWER: Regularly means at least once a week during the season or for a certain period of the year.

Exclude:
Non-competitive aerobics, aquafit, bicycling for recreation/transportation only, body building/body sculpting, car racing, dancing, fishing, fitness classes, hiking, jogging, lifting weights (non-competitive), motorcycling, snowmobiling, and non-competitive walking.

| | | |
|---|---|---|
| 1 | Yes | |
| 2 | No | *Go to end of sports participation activity for household member [1]* |
| | Don't know | *Go to end of sports participation activity for household member [1]* |
| | Refusal | *Go to end of sports participation activity for household member [1]* |

SPC_Q120[J].HMS_Q110 **In which sports did ^piChildName participate?**

INTERVIEWER: Press <Insert> to activate the sport participation activity classification table.

| *1st* | *2nd* | ***Sports participation activity description*** |
|---|---|---|
| | | See sport participation activity classification table in SPA_Q110 |
| | | Sport code |
| | | Don't know |
| | | Refusal |

SPC_Q120[J].HMS_N120 Did ^piChildName participate in another sport?

| | | |
|---|---|---|
| 1 | Yes | |
| 2 | No | *Go to end of sports participation activity for household child [1]* |
| | Don't know | *Go to end of sports participation activity for household child [1]* |
| | Refusal | *Go to end of sports participation activity for household child [1]* |

Source: *2010 General Social Survey, Cycle 24, Time Stress and Well Being, Section 9: Cultural Activities and Sport Participation*

Appendix C

**Table 3: Chi Square Table of Sports Participation and Household Income, Cycle 24: 2010 GSS**

| Number of household child (children) who regularly participate in sports | Total Household Income (no income) | Total Household Income (Less than $5,000) | Total Household Income ($5,000 to $9,999) | Total Household Income ($10,000 to $14,999) | Total Household Income ($15,000 to $19,999) | Total Household Income ($20,000 to $29,999) | Total Household Income ($30,000 to $39,999) | Total Household Income ($40,000 to $49,999) | Total Household Income ($50,000 to $59,999) | Total Household Income ($60,000 to $79,999) | Total Household Income (80,000 to $99,999) | Total Household Income (100,000 to $149,999) | Total Household Income ($150,000 or more) | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| One child | 0 | 0 | 1 | 7 | 14 | 25 | 38 | 48 | 32 | 67 | 79 | 131 | 79 | 521 |
| Two children | 0 | 0 | 2 | 5 | 3 | 16 | 13 | 18 | 20 | 34 | 46 | 68 | 59 | 284 |
| Three children | 0 | 0 | 1 | 0 | 0 | 2 | 3 | 0 | 1 | 9 | 8 | 8 | 12 | 44 |
| Four children | 0 | 0 | 0 | 1 | 4 | 1 | 1 | 1 | 0 | 1 | 4 | 1 | 1 | 10 |
| No children Participated | 3 | 1 | 1 | 10 | 9 | 22 | 38 | 31 | 26 | 38 | 34 | 33 | 14 | 260 |
| Total | 3 | 1 | 5 | 22 | 26 | 66 | 93 | 98 | 79 | 149 | 171 | 241 | 165 | 1,119 |

**Pearson chi2(48) =116.10 Pr=0.00**

**Table 6: Chi Square Table of Sports Participation and Gender, Cycle 12: 1998 GSS**

| Number of other household members who regularly participate in sports | Relationship of household member B who regularly participates in sports to respondent (Spouse or partner) | Relationship of household member B who regularly participates in sports to respondent (Daughter) | Relationship of household member B who regularly participates in sports to respondent (Son) | Relationship of household member B who regularly participates in sports to respondent (Mother) | Relationship of household member B who regularly participates in sports to respondent (Father) | Relationship of household member B who regularly participates in sports to respondent (Sibling) | Relationship of household member B who regularly participates in sports to respondent (Other relative) | Relationship of household member B who regularly participates in sports to respondent (Non - household member) | Total |
|---|---|---|---|---|---|---|---|---|---|
| Two members | 42 | 276 | 358 | 23 | 14 | 73 | 5 | 21 | 812 |
| Three members | 9 | 124 | 144 | 9 | 8 | 16 | 3 | 5 | 318 |
| Four members | 0 | 40 | 46 | 4 | 0 | 3 | 1 | 3 | 97 |
| Total | 51 | 440 | 548 | 36 | 22 | 92 | 9 | 29 | 1,227 |

**Pearson chi2(4) = 22.48** **Pr= 0.069**

**Table 8: Chi Square Table of Sports Participation and Household Income, 1998 GSS**

| Number of other household members who regularly participate in sports | Income of respondent's household (No Income) | Income of respondent's household (Less than $5,000) | Income of respondent's household ($5,000 to $9,999) | Income of respondent's household ($10,000 to $14,999) | Income of respondent's household ($15,000 to $19,999) | Income of respondent's household ($20,000 to $29,999) |
|---|---|---|---|---|---|---|
| One member | 6 | 2 | 18 | 51 | 65 | 153 |
| Two members | 4 | 2 | 4 | 22 | 19 | 46 |
| Three members | 0 | 0 | 1 | 4 | 5 | 8 |
| Four members | 1 | 0 | 1 | 0 | 1 | 5 |
| Total | 11 | 4 | 24 | 77 | 90 | 212 |

| Number of Household Members Who Regularly Participate in Sports | Income of respondent's household ($30,000 to $39,999) | Income of respondent's household ($40,000 to $49,999) | Income of respondent's household ($50,000 to $59,999) | Income of respondent's household ($60,000 to $79,999) | Income of respondent's household ($80,000 to $99,999) | Income of respondent's household ($100,000 or more) | Total |
|---|---|---|---|---|---|---|---|
| One Member | 198 | 225 | 214 | 241 | 133 | 172 | 1,478 |
| Two Members | 76 | 81 | 94 | 119 | 73 | 96 | 636 |
| Three Members | 27 | 32 | 30 | 62 | 37 | 51 | 257 |
| Four Members | 4 | 6 | 16 | 19 | 14 | 17 | 84 |
| Total | 305 | 344 | 354 | 441 | 257 | 336 | 2,455 |

**Pearson chi2(33) =83.74**
**Pr=0.00**