

The Different Aspects of Childcare Services in Canada*

An Analysis on the General Social Survey: Family, Cycle 31, 2017

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3/23/2022

Abstract

This paper studies the usage, type, reasoning, finance, cost of Childcare Services in Canada amongst the respondents in the General Social Survey: Family, Cycle 31, 2017. Respondents' education, main activity before and after parental leave, and the average costs of Childcare arrangements are explored. In this report, R (R Core Team 2020) is used to visualize the data and help perform reliable statistical analysis about the aspects focused on in the discussion. Eventually, this report can be used to evaluate the current early child development services in Canada, and a supplementary survey is provided to gather more data for further analysis.

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1 Introduction

With the improvement of people's education level and income, child care service has gained popularity in the past decades. Recently, the Canadian federal government has allocated \$30 billion in the past five years towards the child early learning services and child care plan (Zhang et al. 2021). Indeed, the goal of this

*https://github.com/bellajiao1999/GSS2017_Childcare

governmental project was to benefit the children early development and encourage female participation in the labor force.

In the Canadian General Social Survey conducted in 2017, responses have been collected to reflect the real family situations in Canada. More precisely, the survey has focused on several aspects of the Canadian family, such as the respondents' number of children, the child care arrangements, education level, income level, source of financial support, etc. The data collected in this survey has been widely used by scholars to analyze the current social trends and to predict the potential issues in the future. This analysis aims to discuss the importance of childcare services in Canadian families, the expenses needed for using childcare services, and the factors that affect the citizens' choice to have children. The paper's focus on Childcare is due to two main reasons, one being childcare is expected to increase maternal employment rates, which in turn leads to gender equality by the distribution of labor and care more equally between partners and by women earning for on their own and being financially independent. Secondly, childcare is beneficial for young children as it leads to a better learning outcome as well as school readiness in the short run. Also, it increases social and labor market prospects in the long run. As the birth rate in Canada continues to decrease, the social problems resulting from a low birth rate have attracted the public's attention. For instance, an aging population is a serious issue that may hinder the prosperity of a country (Weintraub 1962). Therefore, it becomes crucial to analyze the costs of using child care facilities and the reasons that affect Canadians' willingness to have children.

This analysis is divided into three sections. The first section will discuss the data. The second section will talk about the survey and the results, and the third section will focus on the discussion. The code and data that support this analysis can be found in the Github repository: `GSS2017_Childcare`.

2 Data

The 2017 GSS was conducted from February 2, 2017, to November 30, 2017. It is a cross-sectional sample survey with the target population of all non-institutionalized persons aged 15 years and older, living in the 10 provinces of Canada. The Census Metropolitan areas are considered separate strata. The survey uses a new frame which was created in 2013, which uses the telephone numbers with Statistics Canada's Address Register and the data was collected via telephone. This data is subject to both non-sampling and sampling errors (Beaupre 2020). The sample size of the 2017 General Social Survey Family was 20,602 and the respondents were interviewed in the official language of their choice. No proxy interviews were permitted. Those not responding to the telephone calls weren't added to the data.

This survey's main principle is based on the central role of a family which plays an indisputable role in people's lives. It helps us understand families in Canada and helps answer several questions of navigating conjugal, family, and work trajectories, the future of families and the increasingly diverse families, what do families' life look like in different stages, and the commonality of step or single-parent families (Beaupre 2020).

The main focus of this paper is on certain characteristics of respondents such as children of respondents, maternity or paternity leave, decision making in the households, arrangements and financial support after a separation or divorce, and labor market activity and education. In terms of respondents' children, it involves the core demographic area which helps identify all children of respondents. In this paper, we are interested in the children living both inside and outside of the household as well as those who are deceased. The main focus of this paper is on infants and primary school-going children and the child's living arrangements. The paper focuses on detailed questions about the type of childcare, usage of childcare, cost, and satisfaction with childcare. The use of maternity, paternity and parental leave involved with the re-entrance in the workforce sheds light on the current public policies and enables program development, particularly in parental leave programs. Arrangements and financial support after divorce or separation is an important variable because it helps us understand the decision-making in terms of child care usage. Even though there are several arrangements regarding child custody and spousal support, it is essential to understand that our data does contain respondents who have not responded to several questions, and not answering one variable out of the rest makes the observation a bit redundant as compared to observations with responses to all the

important variables, thereby reducing our subset of the main General Social Survey Data set of Cycle 31, 2017 (Technology, n.d.).

In order to procure the data, first, the raw data was downloaded using the CHASS website, through which the General Social Survey 2017, Cycle 31 was available for a customized download. Therefore the General Social Survey (GSS), Cycle 31, 2017 microdata was retrieved from the University of Toronto CHASS (Computing in Humanities and Social Sciences) and is available to over 25 different universities (Technology, n.d.). Dataset was cleaned using the functions in R, where the data was put into a tidy format. The code of the variables were changed to meaningful and informative variable names. For instance, 1 and 2 from the original data set were replaced by “yes” and “no”. In addition, the variables that are irrelevant to the aspect focused on this report were removed. Then, the variables of interest were added to a new dictionary using Wickham et al. (2019) and renamed. One variable was created to account for the main activity before and after maternity or paternity leave. This variable was turned into a categorical variable depending on 6 other variables in the raw dataset. Other variables which included the financial arrangements, average costs of Childcare arrangements, total number of children, childcare basis, childbearing options and educational levels were included in the new dataset and were cleaned using mutate function using Wickham et al. (2019) on R Core Team (2020).

2.1 Childcare in Canada Background:

In Canada, there are several programs designed for the purpose of caring for children in the temporary absence of their parents such as day nurseries, daycare child care, foster home care and family home daycare and (Howe and Prochner 2012). These comprise the enterprise of early childhood education. The history of childcare services and education is that most of them were privately sponsored programs, organized and headed by women, and the debate over the role of parents versus the private charity providing care and education for young children (Howe and Prochner 2012). Earlier, childcare was provided to poor families as a social service in times of critical need (Howe and Prochner 2012). This paper focuses on the Childcare aspect of the General Social Survey (GSS), Cycle 31, 2017 microdata, which is retrieved from the University of Toronto CHASS (Computing in Humanities and Social Sciences) (Technology, n.d.). The aim of this paper is to understand the Canadian Childcare service usage, type of childcare uses, main reasons to get childcare, costs of childcare, and how it relates to socioeconomic factors in the microdata provided, focusing on financial support and education. In general, parents were primarily responsible for the early education of their children but this was up for debate in kindergartens in public schools. There are still no national plans directing childcare policy all across Canada in provinces and territories and kindergartens continue to have an ambiguous place in schools (Howe and Prochner 2012).

These different aspects of Childcare enable us to not only look at child care as a social policy issue but also a multidimensional issue, beyond the simplification of the mother’s care vs non-family care dichotomy (Saraceno 2011). This paper gives an overview of the usage, type, and costs of childcare service usage in Canada and on the labor market activity before parental leaves and parental education which is necessary as they shed light on and help develop policies that address the complex issues of choice, rights, and social inequality involved in child caring patterns (Saraceno 2011).

3 Survey and Results

3.1 Survey

A supplementary was created to enhance the clarity of the report. The new survey is a derivative of the 2017 GSS, and it focuses primarily on the child care services and the people’s childbearing decisions. The survey is short compared to the GSS as it contains only 13 multiple choice questions and two short answer questions. During the survey, the respondents can choose their answers from 2 to 6 categorical options provided in the questionnaire. In the short answer section, space was also offered for participants to leave a short message about their unique opinions. The goal of this supplementary survey is to gather information about people’s past, present, and future plans about their childbearing process. Starting a family is something that almost everyone faces, and it’s essential to make note of people’s opinions about family in the current socio-cultural context. With data collected in this supplementary survey, changes can be made to the current child-caring

facilities, and reports regarding similar matters can be made in a more precise, detailed, and informative manner.

3.2 Results

It is important to understand the dynamics of childcare. To explore further into this, it is essential to understand the basic usage of childcare arrangements amongst the respondents. Figure 1, created using the Wickham (2016) function tells us about the usage of childcare. The majority of our respondents, approximately 1250, use childcare on a regular basis, and around 600 approximately, use it on an occasional or irregular basis. It is essential to understand that Figure 1 doesn't account for education, income, and other socio-economic factors and solely focuses on the usage of childcare. In addition, Figure 2 also illustrates how often childcare was used in the past month. According to the respondents, most of them use childcare five days a week. The number of people who use childcare services five days a week greatly exceeds the other 7 options, which highlights the importance of childcare services during business days.

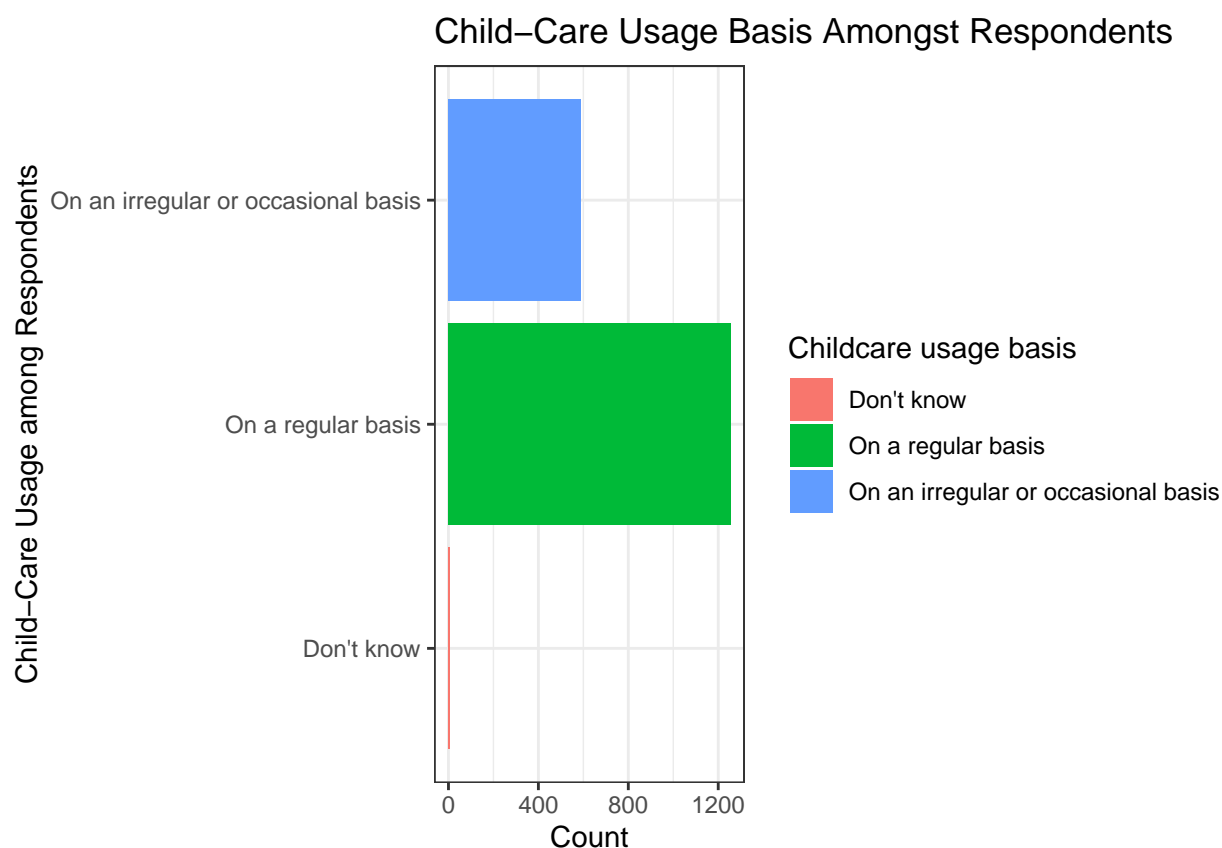


Figure 1: Child-Care Usage Basis Amongst Respondents

In barplot Figure 3, using Wickham (2016), the different arrangements of financial support received or provided by respondents. There are a high number of respondents in the microdata set who do not provide or receive financial support, whereas the number of respondents who receive financial support out exceeds the number of respondents who provide financial support. In Figure 4, the relationship between Childcare service usage and Financial support is explored. It is made using Wickham (2016) function on r and it is a multivariable chart that includes the financial support for a child received by the respondent and the usage of childcare services by the respondent. The majority of the respondents who receive financial support for children use childcare services on a regular basis and the majority of the respondents who provide financial support use childcare services on an irregular or occasional basis. There are a few respondents who have

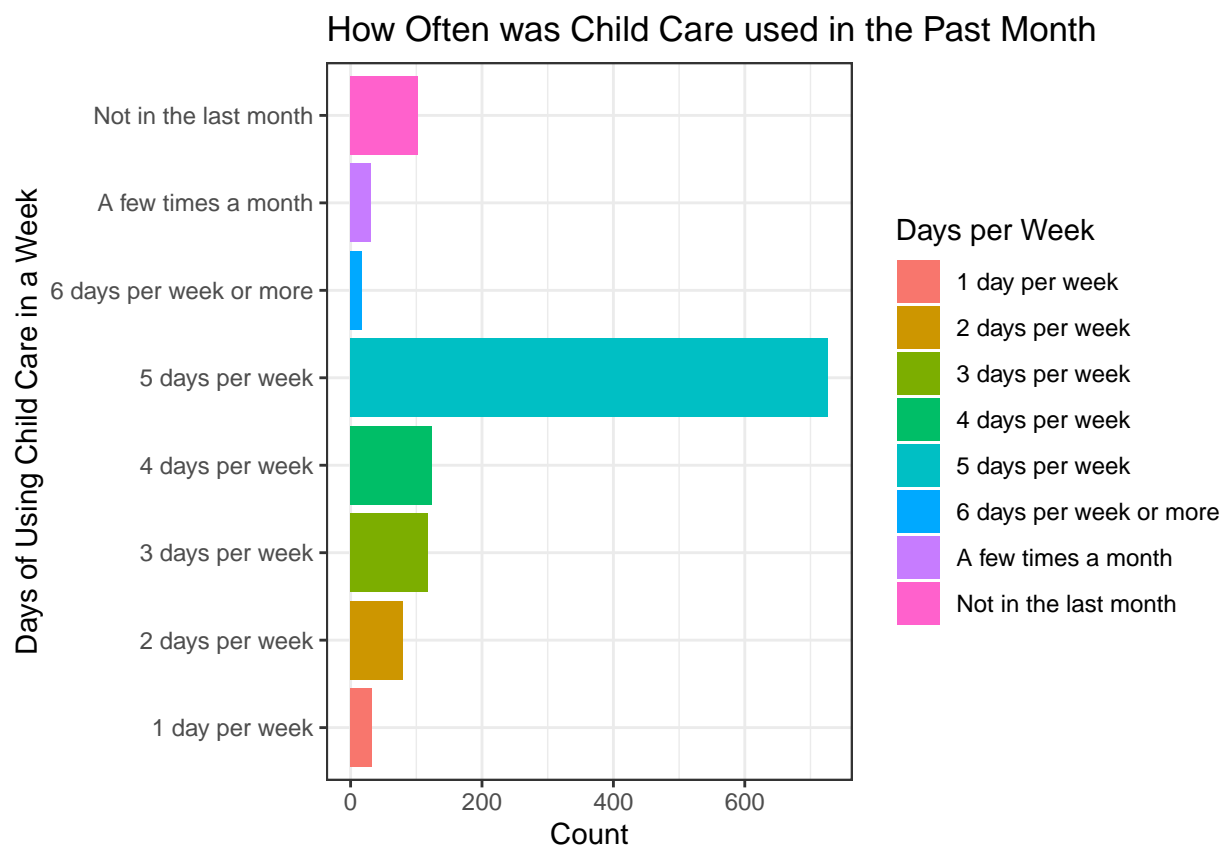


Figure 2: How Often was Child Care used in the Past Month

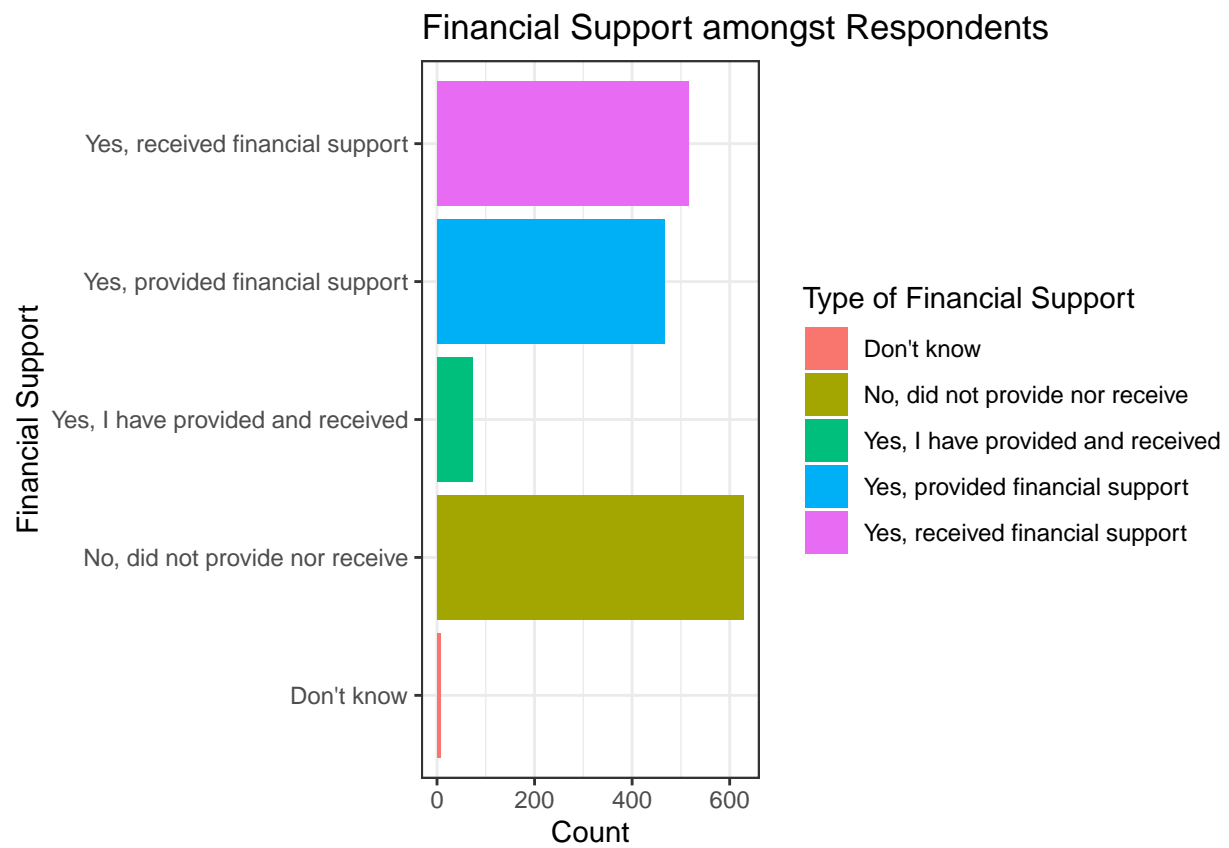


Figure 3: Financial Support Amongst Respondents

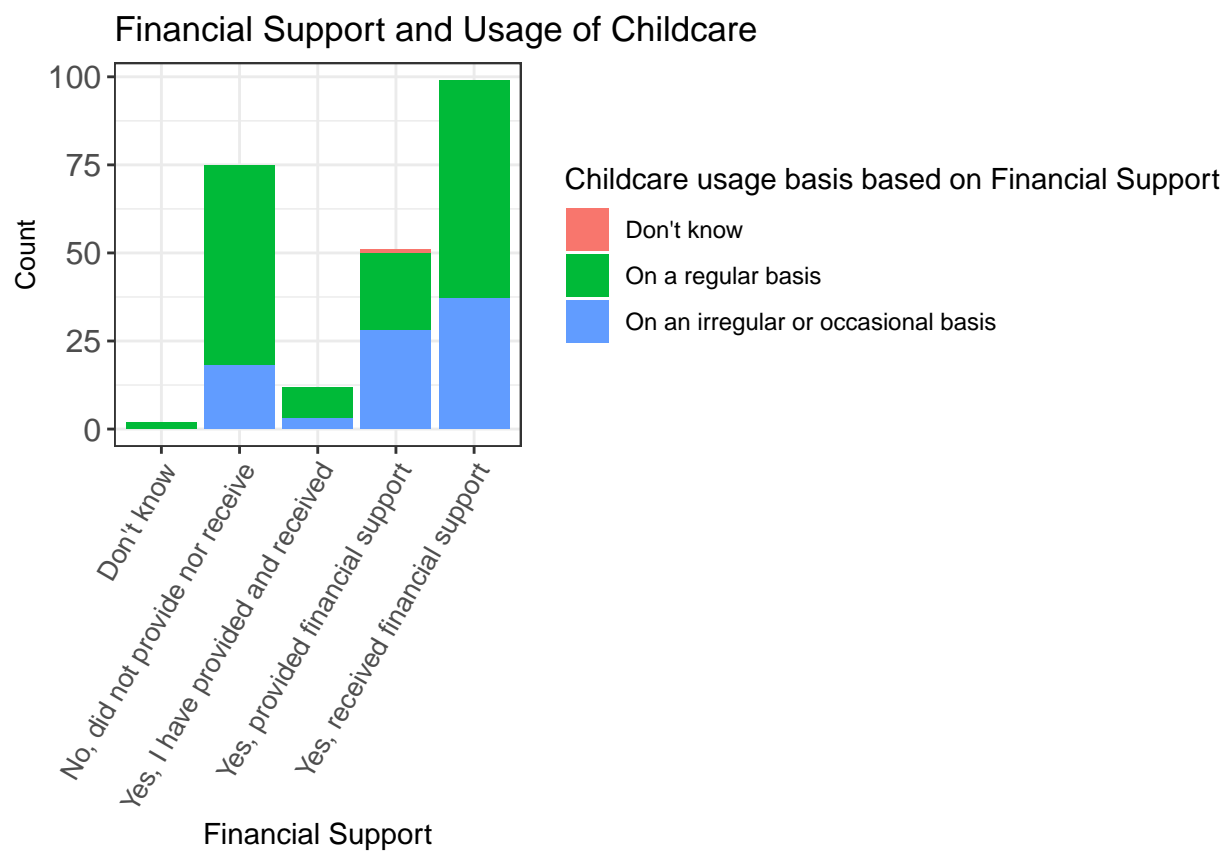


Figure 4: Financial Support and Usage of childcare

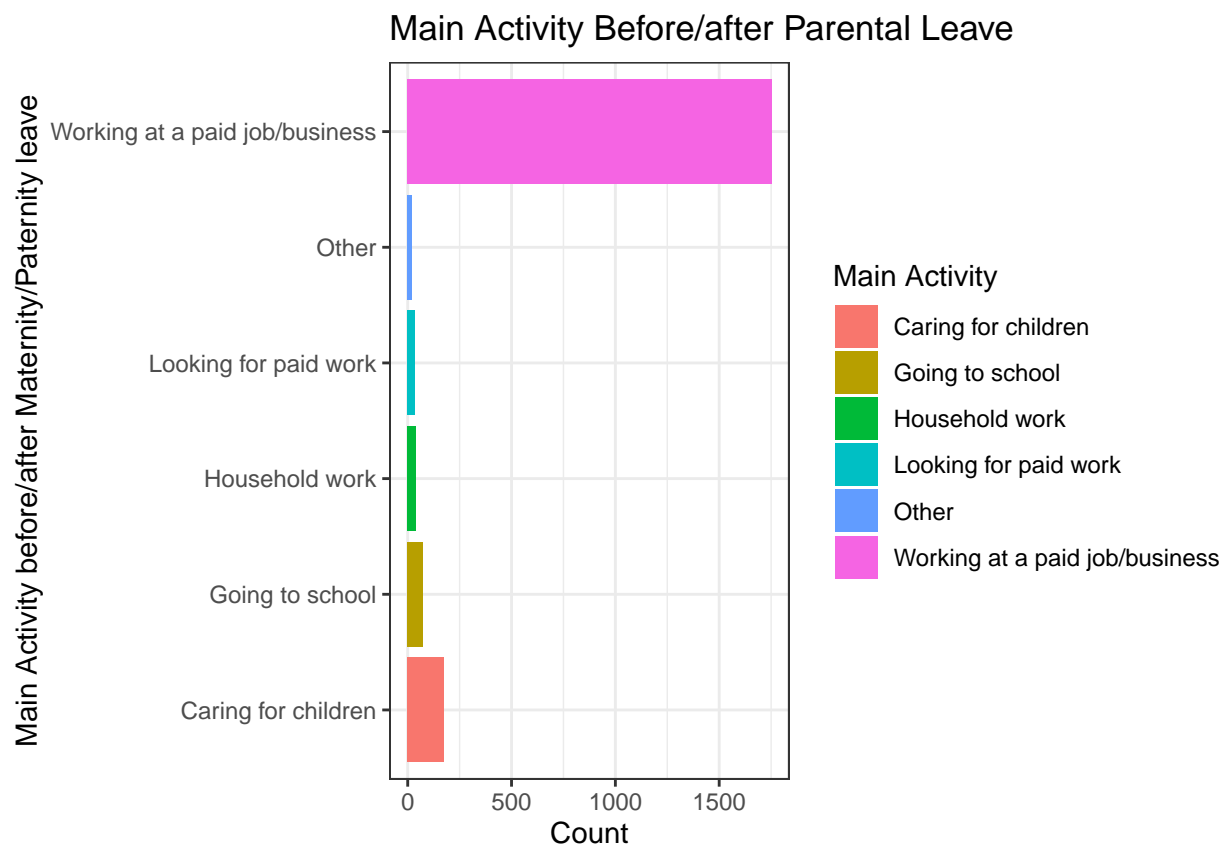


Figure 5: Main Activity by Respondents before/after parental leave

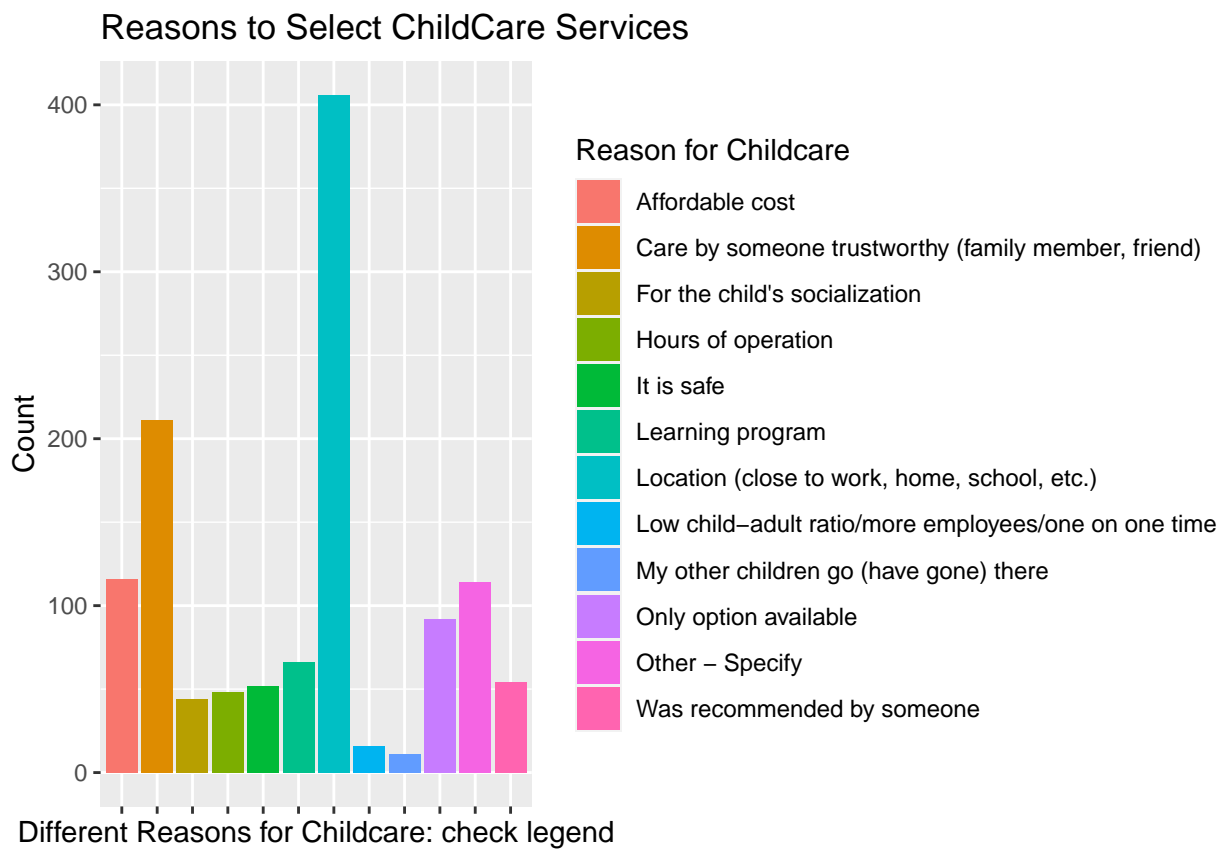


Figure 6: Reasons to Select ChildCare Services

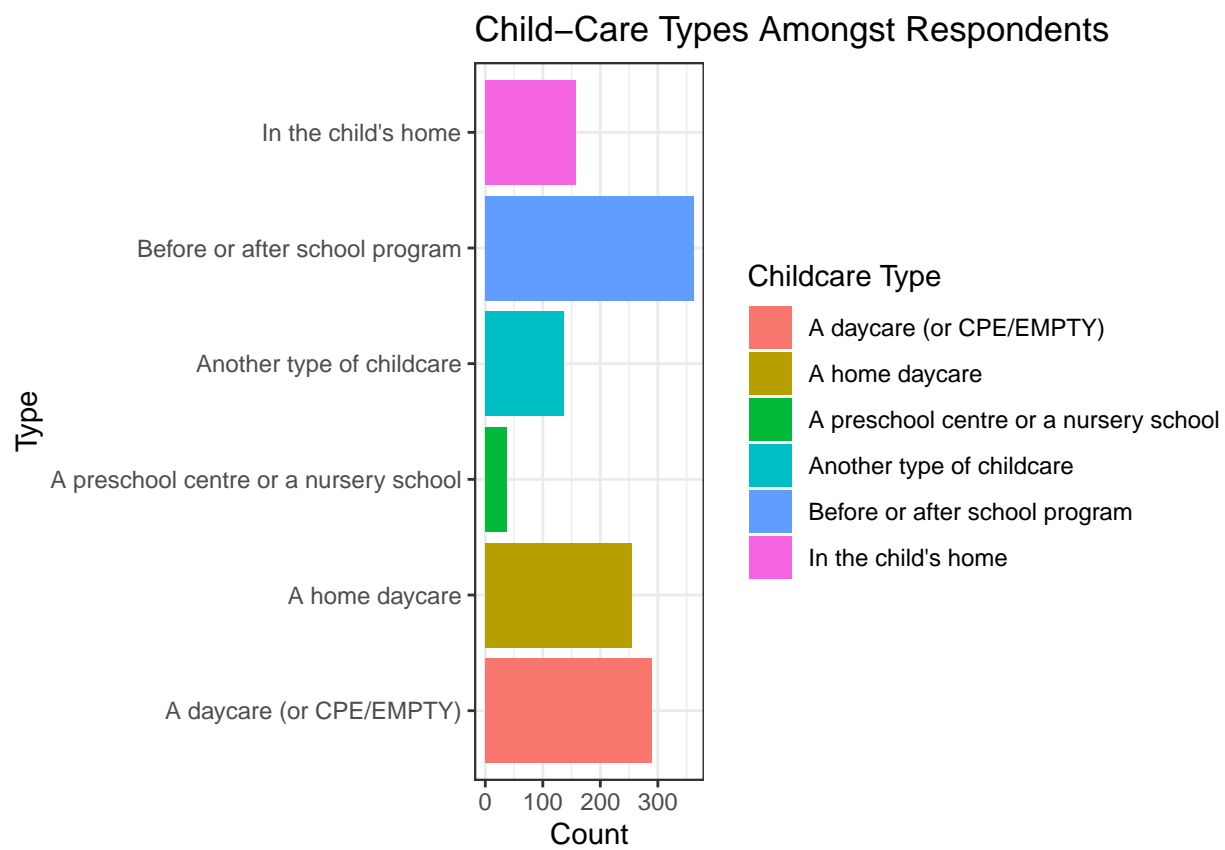


Figure 7: Child-Care Types Amongst Respondents

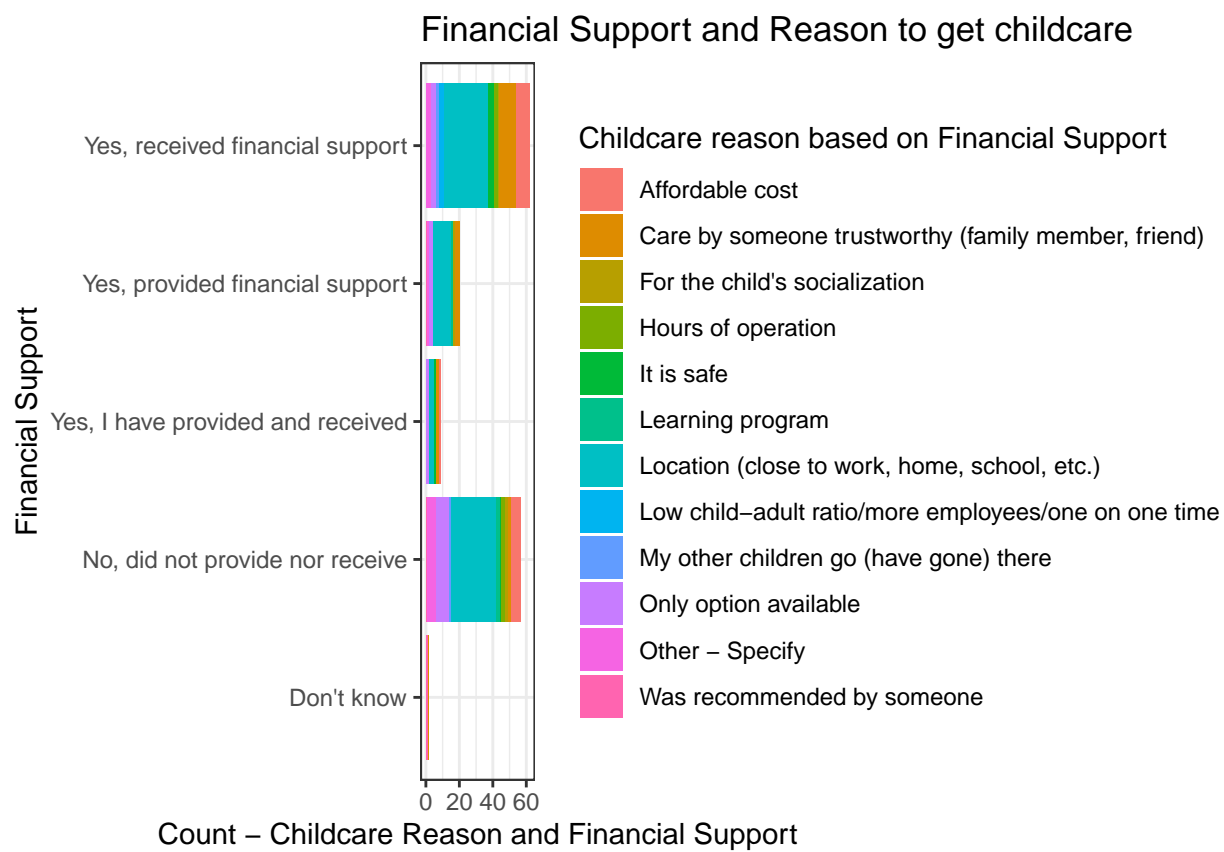


Figure 8: Financial Support and Reason to get childcare

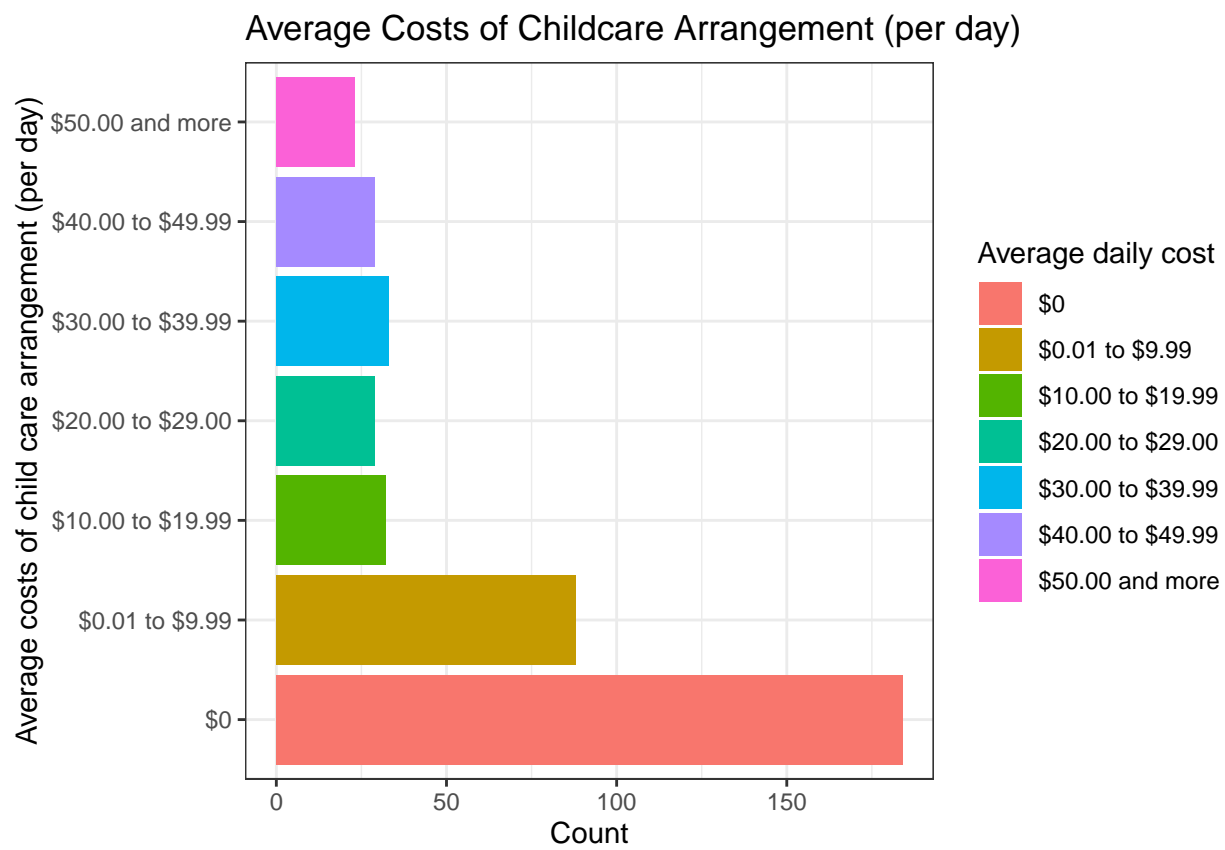


Figure 9: Average Costs of Childcare Arrangement (per day)

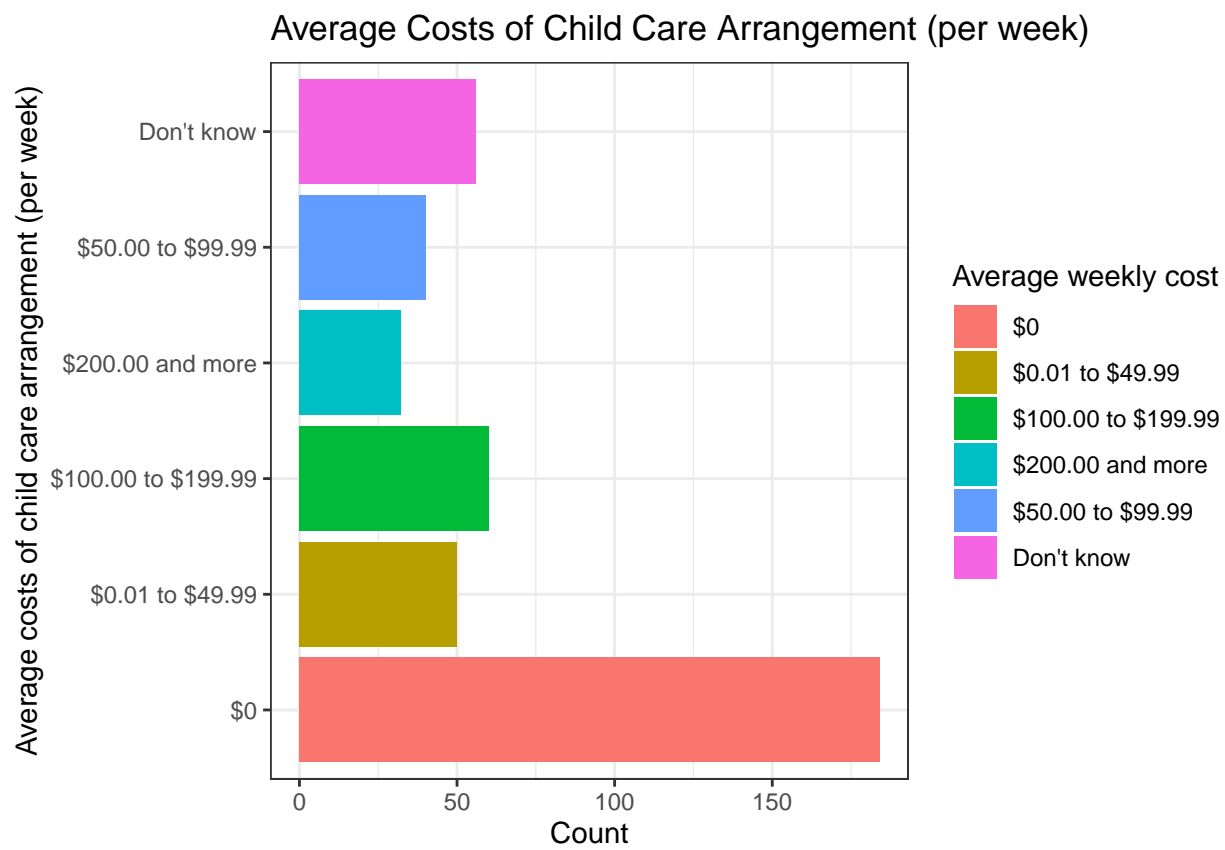


Figure 10: Average Costs of Child Care Arrangement (per week)

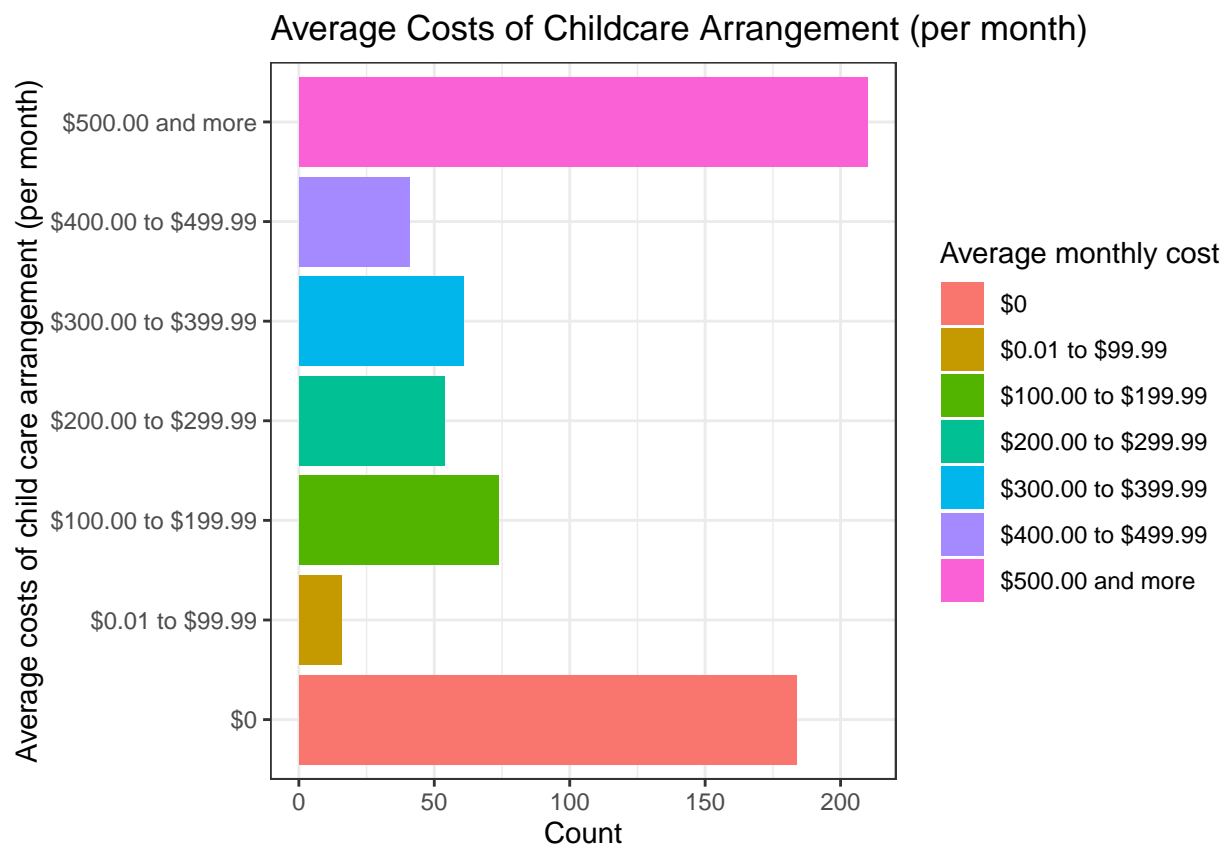


Figure 11: Average Costs of Childcare Arrangement (per month)

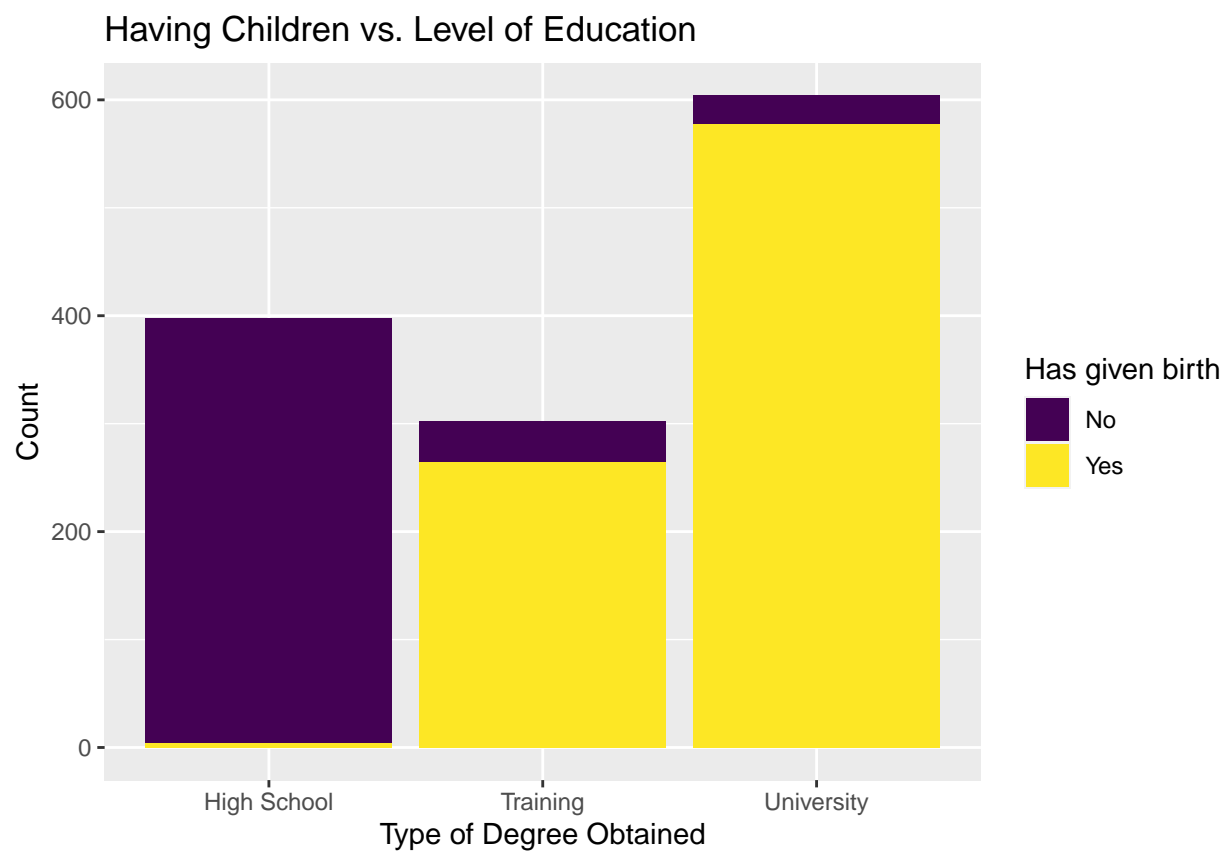


Figure 12: Having Children vs. Level of Education

provided financial support but do not know the usage of childcare services and have a higher number of occasional usage. It is also essential to note that the respondents who do not provide or receive financial support, majority of them use childcare support on a regular basis and a very low majority of them use childcare on an occasional basis. Figure 5 is made using Wickham (2016) function on R Core Team (2020) and with theme bw. Figure 5 highlights the main activity of the respondent before or after their parental leave. The majority of respondents' main activity before or after parental leave is working at a paid job and business. The second most activity that respondents take up is to caring for their children before or after their parental leave and then the third most taken up activity is going to school.

The reasons for getting childcare services is explored in Figure 6, the biggest reason for childcare service is convenience in terms of location, close to home, school, etc. the second main reason for childcare services is the respondents were able to find services provided by someone trustworthy, which could be family or friends and the third main reason was affordability. Other reasons such as safety, socialization, usage history, more one-on-one time are also some of the reasons respondents have selected childcare services. Figure 8, which is a multivariable graph explores the relationship between the reason to get childcare services and financial support. This graph shows that the respondents who received financial support, mostly get childcare due to convenience of location, care by someone trustworthy, affordability, and because it's safe in that order. Other reasons such as only option available, usage history, and one on one time are the minority reasons for getting these services. The respondents who gave financial support got these services due to convenience, care by someone trustworthy, recommendations, and the only option available for care. It is essential to note that affordability wasn't a primary reason for respondents to get childcare services who pay financial support. According to Figure 7, which elaborates the different types of childcare services utilized by respondents, the main type of childcare is the before/after school programs, day cares, and closely after that is a home daycare. A nursery school or preschool childcare service is the least popular childcare service amongst the respondents.

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The average cost of childcare services also influences people's choices about parenting. Figure 9 displays the average cost of child care arrangements per day. According to the graph, most participants stated that their average cost in the child care arrangement was \$0, and only a small proportion of people spent \$50 and more per day. Those who do not spend money on Child Care services either do not need such services (do not have children) or the costs of their arrangements are covered by the Canada Child Benefit Plan offered by the federal government (Najjarrezaparast and Pendakur 2021). Next, the average weekly costs shown in Figure 10 also demonstrate similar patterns. A great number of the respondents state that they spend \$0 on child care arrangements per week, and the count of the rest of the options remained relatively low. However, the average monthly cost of child care arrangement in Figure 11 gives an interesting pattern where the highest number of counts comes from the population who spend \$500 and more. This may result from the non-response bias of the survey, where the people who spend a lot of money on child care arrangements per month didn't participate in Figure 9 and Figure 10. Besides, this pattern may also be a result of the price of the daycare that these people choose. If they choose the expensive care services and only use them a few times a month, this may also cause the count of people who spend a lot per month to be higher than those

who spend a lot of money per day or week. To sum up, the number of people who don't spend money on child care services is high compared to the other options. Nevertheless, there are still many people who pay for the arrangements regularly, and the price ranges vary according to their personal needs and situations.

Moreover, this report also focuses on the respondents' decisions to give birth to children. In the past decades, demographers often link mothers' decisions to have children with their own educational backgrounds (Yu and Sun 2018). In regard to this question, information regarding both the educational and the childbearing status was collected during the survey. Figure 12 illustrates a multi-vari chart that includes only the level of education for those who have previously answered "yes" or "no" in the question: Have you ever given birth to children? (Rudis 2020) The result shows that most female participants have a university degree, and a great majority of these women with a university degree have already given birth to at least one child. Similarly, most women with trade school degrees also have given birth to at least one child. In contrast, for those who hold a high school degree, their chance of not having children is significantly high. Hence, the participants with university or trade school degrees possess a higher willingness to have biological children. This trend may be due to both the current social patterns and the age of the survey's respondents.

4 Discussion

This paper focuses on the utilization, arrangements, and costs of childcare services based on the information extracted from the General Social Survey (Canada 2017), Cycle 31, 2017 microdata, retrieved from the University of Toronto CHASS (Computing in Humanities and Social Sciences), Cycle 31 (Technology, n.d.). This paper outlines the childcare aspect of the General Social Survey: Family, Cycle 31, 2017 and the childcare of families in specific. The paper explores the data available on Childcare such as childcare type, childcare usage, childcare reasoning, financial support for children, main activity before or after maternity/paternity or parental leave, etc.

Choosing childcare as the topic of this paper is due to two main reasons, one being: childcare is expected to increase maternal employment rates, which in turn leads to gender equality by the distribution of labor and care more equally between partners and by women earning for on their own and being financially independent. The second reason is: the childcare is beneficial for young children as it leads to a better learning outcome as well as school readiness in the short run and in the long run it increases social and labor market prospects. Yet, there are conditions on these benefits of childcare, with the main ones being quality of childcare in terms of the type of childcare, legal institutions, curriculum, financial status, affordability. With the respondents' responses to the survey questions, data has been organized and cleaned using R to make visualizations about different topics regarding early child development.

4.1 Usage, Type, and Reason of Childcare

This paper explores the different usage responses of childcare amongst the respondents. To explore further into this, it is essential to understand the basic usage of childcare arrangements amongst the respondents. The majority of our respondents, approximately 1250, use childcare on a regular basis, and around 600 approximately, use it on an occasional or irregular basis. Figure 7 doesn't account for education, income, and other socio-economic factors and solely focuses on the usage of childcare. There are several types of childcare services and the most used childcare service by respondents is the one offered by school programs, followed by daycares. Here, it is essential to understand the pricing, affordability, and curriculums. One on one time the different types of childcare services aren't taken into account, therefore the quality of childcare services is varied. The main reason for selecting childcare services by respondents is due to the location, trustworthy services, and affordability. Other quality-related reasons such as one-on-one time and learning programs aren't as common amongst the respondents for choosing the services which shed light on the prioritization of the quality of childcare services or the lack of.

4.2 Financial Support and Costs of Childcare

According to the average costs spent on Childcare services, the number of people who don't spend money at all on Childcare services is relatively high. Besides that, there are still a significant amount of people

who spend money on daycare services regularly, and the costs range from 0.01\$ to 49\$ per day, \$0.01 to \$99 per week, and 0.01 to \$499 per month. Thus, it's fair to conclude that approximately half of the whole population decides to not use childcare services and the other half spends a discrete amount of money on these services. Financial Support as shown in Figure 3, the majority of respondents do not receive or give any type of financial support for children, and with a high cost of childcare services in Canada, the lack of affordability, and low motives of the universality of childcare in Canada is shown. It is important to note that we face voluntary bias as shown in Figure 4 as the majority of respondents in this receive financial support and opt for the regular basis of childcare. Even though this follows our view in which when given financial support, usage of childcare becomes more frequent or regular but due to voluntary bias, it is important to note that we may not have sufficient information to make that claim.

4.3 Education and Childbearing Intentions

There are still a considerable number of people who do not spend money on daycare services at all. Lastly, in agreement with the statement made by Yu in his statistical report, the disadvantaged young adults with low education levels tend to delay their childbearing process as a result of the high unemployment rates (Yu and Sun 2018). However, according to his conclusion, people with lower levels of education are less likely to postpone their childbearing than those with high educational backgrounds (Yu and Sun 2018). This can be due to the direct relationship between education and type of labor, therefore, having higher returns per year of schooling. The gap shown in table x can be understood as the high school-educated population has decided to temporarily delay their time of giving birth, rather than give up childbearing. This raises questions of childcare being a class problem, as respondents with a high school degree delay their time of giving birth, most of the time, resources aren't given, and due to the lack of affordability as one of the main reasons for not obtaining higher education, it develops into social inequalities.

This report enables both the government and future parents to achieve a better understanding of the transition to parenthood. Particularly, this paper highlights the importance of stable financial sources while raising a child, and outlines the potential factors that may affect the childbearing intentions of average Canadians. These results are crucial in maintaining a functional child care system and making adjustments to future governmental plans.

4.4 Childcare Services's main Issues

Childcare is a class problem: the lack of affordability, accessibility, and adequate childcare services poses serious threats to not only the quality of life for poor and working-class people who are parents but also constraints and limits the freedom of choice for parents in the first place through the threat of increased economic insecurity (McKenna 2015). It is a constant threat that is felt in gendered and racialized ways. There is a growth of a culture where to parent and form a family, value the ethic of mutual care and responsibility is a luxury of only the wealthy (McKenna 2015). This paper explores the relationship between financial support, childcare usage, parental leaves, and other labor market activities to which the working class is subjected to.

Canada, lags behind many of its counterparts in the Organization for Economic Co-operation and Development (OECD) with regard to childhood development programs, in terms of both GDP spent on public funding of early childhood education and enrollment of children in preschool. Unlike other developed countries, Canada does not have a national childcare program (McKenna 2015). Therefore it is essential to understand the dynamics between financial support and childcare services (McKenna 2015).

In Canada, childcare support guidelines are legislated and their application is mandatory whereas spousal support is not legislated and their application is advisory and not mandatory (Rogerson, n.d.). Here, financial support could mean any type of monetary support for children, spousal, childcare, or from the various programs in the government. As seen in Figure 4, when receiving financial support, the usage of childcare increases on a regular basis as compared to those who do not receive financial support. In Figure 8, the respondents receiving financial support do not select childcare services with importance on affordability but rather look at quality childcare services such as socialization needs, and a good child-adult ratio as compared to others. It is also important to note that majority of the times respondents who may not receive financial support may not be in need of the support as compared to those who receive it, therefore there is a bias as

we do not have the level of income of the respondents to ensure that finance is the main driving factor when it comes to choosing between convenient childcare services or quality childcare services.

4.5 Weakness

It's important to acknowledge that the original data set from the 2017 GSS was flawed in many ways, as both sampling and non-sampling errors were present in the data set. First of all, non-response bias occurred during the data collection process as a remarkable number of people did not respond to the survey. According to the 2009 GSS, where the same data collection method was employed, incomplete telephone coverage was a major issue in obtaining a representative sample of the responses (Government of Canada 2021). Consequently, the results of the survey were limited to the people who have a land-line telephone, and the responses of those who didn't have telephones in their households were neglected. Secondly, voluntary bias also impacted the authenticity of the data set. People have the option to skip questions from the survey that they didn't like and answer only the questions that they felt comfortable with. Because of this bias, the data extracted from the survey contained many "Valid Skips," which caused confusion and troubles during the cleaning and analyzing procedures. Lastly, the 2017 GSS was not up to date. Due to the raging of COVID-19, many things have changed since 2017. Hence, the 2017 GSS is out of date, and some of the results obtained from the survey could no longer reflect the conditions of the current society.

The data recording method of the 2017 GSS was inherited from the first GSS conducted in 1985 (Government of Canada 2017). To ensure the great consistency of the data sets, the data studied in this report still uses a set of numbers that were assigned to different categorical options. This method has made the data set impossible to understand without a codebook, and data cleaning was required before proceeding to statistical analysis. Therefore, the dataset used in this report has undergone the cleaning process, where the numbers from the original data were transformed into meaningful values. Similarly, the names of the variables were also renamed to facilitate reading and coding.

4.6 Future Direction

Due to the many limitations presented in the 2017 GSS, complete, unbiased, and informative data is required for studies in the future. Aside from the factors discussed in the report, there still exist many other factors that may influence people's opinions and plans about child care arrangements. These factors may include and are not limited to the condition of grandparents, number of siblings, respondents' cultures, and the children's willingness to attend child care services. Besides, as many things have changed in the past few years, data has to keep up with time. Hence, a complete data set with the up to date information is essential to make conclusions about current social patterns.

The supplementary survey provided in the appendix of the report offers an opportunity to explore deeper issues and topics regarding early child development and childbearing intentions. Instead of using the same data collection method as the one used in the GSS, this new survey records the meaningful categorical options from the participants. With the new information gathered from this survey, the governments can modify their funding and policies based on the exact needs and perceptions of the people.

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6 Appendix

6.1 The Supplementary Survey

This survey aims to gather more data on the use of child care services in Canada. We’re curious to know more about people’s opinions about early child development and family. We’ll use this survey to make a more detailed analysis and adjust the form of GSS in the future. By proceeding with the survey, you understand that your responses will be used to help us to understand the current situations better and make reasonable assumptions about the future.

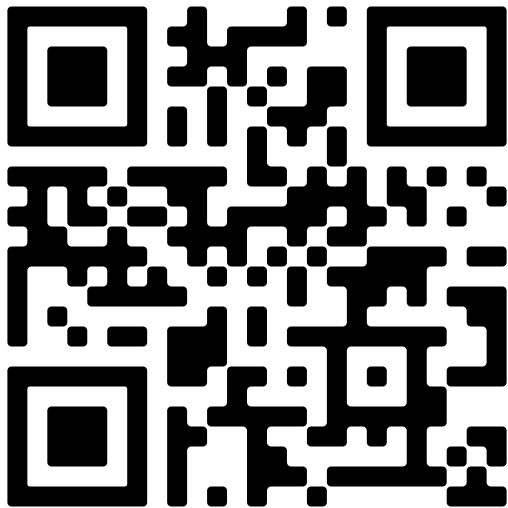


Figure 13: QR code of the Supplementary Survey

What is your gender?

☐ Male

☐ Female

☐ Other: _____

What is your age?

☐ 0 to 20 years old

☐ 20 to 30 years old

☐ 30 to 40 years old

☐ 40 to 50 years old

☐ 50 to 60 years old

☐ 70 years old and above

What's your marital status?

☐ Married

☐ Single

☐ Divorced

☐ Widowed

☐ Other: _____

Do you have grandchildren?

☐ Yes

☐ No

Figure 14: Questions from the Supplementary Survey

What is your employment status?

- ☐ Employed
- ☐ Unemployed
- ☐ Self-employed
- ☐ Part-time employed
- ☐ Carer
- ☐ Retired

Have you given birth to at least one child?

- ☐ Yes
- ☐ No

Have you ever adopted a child?

- ☐ Yes
- ☐ No

What is your family income level?

- ☐ \$0 to \$50,000
- ☐ \$50,000 to \$74,999
- ☐ \$75,000 to \$99,999
- ☐ \$100,000 to \$149,999
- ☐ \$150,000 to \$199,999
- ☐ \$200,000 and above

Figure 15: Questions from the Supplementary Survey

How many children do you plan to have?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5 and more

If you have children, do you plan to use Child Care services?

- ☐ Yes
- ☐ No

Do you think early child development is important?

- ☐ Yes
- ☐ No

To you, what is the biggest challenge to raise a child?

- ☐ Lack of time
- ☐ Lack of money
- ☐ Constant anxiety
- ☐ Lack of emotional bounding
- ☐ Child's health

Figure 16: Questions from the Supplementary Survey

What is your budget for Child Care Service (per month)?

☐ \$0

☐ \$0.01 to \$99.99

☐ \$100.00 to \$199.99

☐ \$200.00 to \$299.99

☐ \$300.00 to \$399.99

☐ \$400.00 to \$499.99

☐ \$500.00 and more

Please explain your decision to have or to not have children.

Your answer _____

Please explain your decision to get or not to get married.

Your answer _____

Figure 17: Questions from the Supplementary Survey