We PLAY Center Data Analysis

Data Processing (ETL)

- Extraction from the WePlay Center's Google Forms surveys
  - Very messy
- Collection date range: July 2019 - March 2020
- We extracted the data by reading the excel files we were given
- The resulting data frame had aspects that needed reformatting like column titles and the first row
- Columns which would be relevant for our analysis were then grouped together in new dataframes

3	1.1E+10	2.42E+08	2019-09-05 18:11:49	########	63.249.72.114				Female		Under 18
4	1.09E+10	2.42E+08	2019-08-20 07:09:08	########	72.211.114.28				Female		35-44
5	1.09E+10	2.42E+08	2019-08-08 11:44:40	########	72.204.146.32				Female		35-44
6	1.09E+10	2.43E+08	2019-08-08 10:33:01	########	72.205.182.40				Male		25-34
7	1.09E+10	2.43E+08	2019-08-07 13:07:16	########	72.205.182.40				Male		65+
8	1.09E+10	2.43E+08	2019-08-07 11:32:43	########	72.204.19(	Ashleyhoward@hotmail.com			Female		35-44
9	1.09E+10	2.43E+08	2019-08-07 10:23:05	########	72.205.182.40				Female		25-34
10	1.09E+10	2.43E+08	2019-08-07 10:02:34	########	72.205.182.40				Female		25-34
11	1.09E+10	2.43E+08	2019-08-06 11:11:52	########	72.205.182.40				Female		25-34
12	1.09E+10	2.42E+08	2019-08-06 23:51:42	########	98.164.85.110				Female		25-34
13	1.09E+10	2.42E+08	2019-08-06 20:36:08	########	99.35.32.85				Female		25-34
14	1.09E+10	2.42E+08	2019-08-06 16:03:29	########	99.203.26.165				Female		35-44
15	1.09E+10	2.42E+08	2019-08-06 14:05:58	########	68.11.52.69				Female		25-34
16	1.09E+10	2.43E+08	2019-08-06 13:21:43	########	68.107.24(	mymindmypeace@gmail.com			Female		18-24
17	1.09E+10	2.42E+08	2019-08-06 11:01:41	########	172.56.26.103				Female		35-44
18	1.09E+10	2.43E+08	2019-08-06 10:29:48	########	72.205.182.40				Male		35-44
19	1.09E+10	2.43E+08	2019-08-06 09:56:54	########	72.205.182.40				Female		25-34
20	1.09E+10	2.43E+08	2019-08-06 09:23:04	########	72.205.182.40				Female		25-34
21	1.09E+10	2.42E+08	2019-08-06 09:17:46	########	99.203.91.196				Female		25-34
22	1.09E+10	2.43E+08	2019-08-06 09:15:45	########	12.192.15(	laurenfayekasten@gmail.com			Female		35-44
23	1.09E+10	2.42E+08	2019-08-06 08:44:28	########	98.164.91.254				Female		25-34
24	1.09E+10	2.42E+08	2019-08-06 00:18:10	########	108.196.209.234				Female		35-44
25	1.09E+10	2.42E+08	2019-08-05 22:47:45	########	99.203.27.240				Female		25-34
26	1.09E+10	2.43E+08	2019-08-05 20:55:14	########	72.211.11(	jebney@gmail.com			Male		45-54
27	1.09E+10	2.42E+08	2019-08-05 20:09:58	########	174.70.106.200				Female		35-44
28	1.09E+10	2.42E+08	2019-08-05 17:56:06	########	98.164.66.132				Female		25-34
29	1.09E+10	2.42E+08	2019-08-05 17:19:15	########	174.69.113.182				Female		35-44

L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
How many	How old is	What is the child's ge	What is yo	How old is	What is the	What is yo	How old is	What is the	What is yo	Have you	What type	Are you c
Response	Response	Response	Not listed	Response	Response	Response	Response	Response	Response	Response	Response	Response	Response
1	19-24 mon	Male		Sitter							Yes	In-home pr	No
1	0-6 months	Female		Mother							Yes	Private cen	No
1	25-36 mon	Male		Mother							Yes	Private cen	No
1	0-6 months	Male		Mother							No		
1	19-24 mon	Male		Mother							No		
1	25-36 mon	Male		Mother							No		
1	0-6 months	Male		Mother							No		
1	0-6 months	Female		Aunt							No		
1	0-6 months	Female		Mother							No		
2					0-6 months	Female	Mother	37 months	Female	Mother	No		
1	13-18 mon	Male		Father							No		

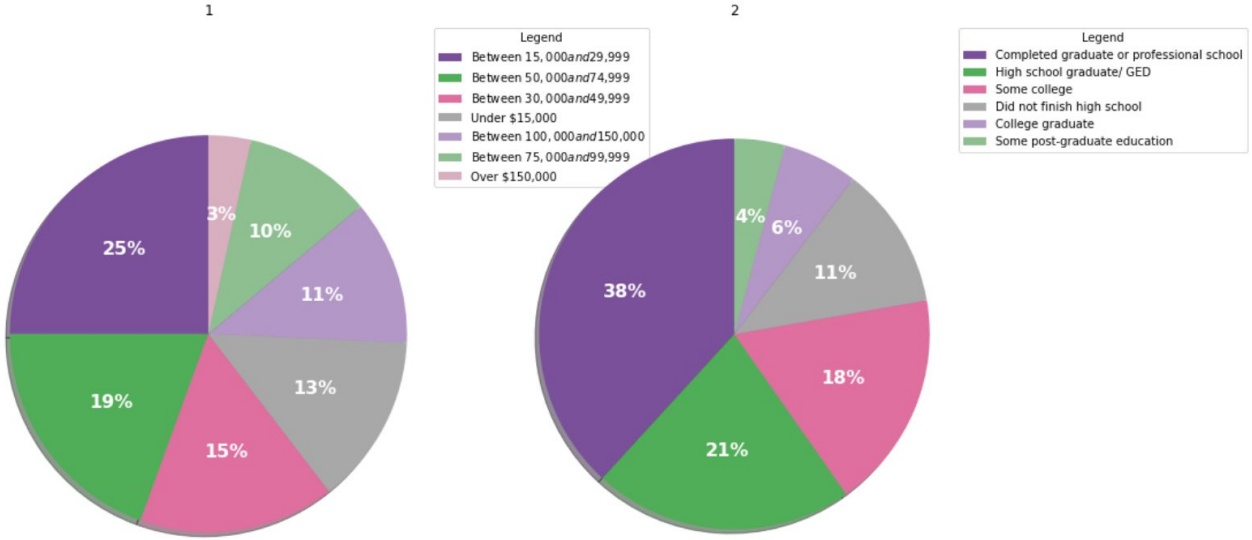
Exploratory Analysis & Data Visualization

- Our exploratory Analysis involved visualizing the demographic data and related questions in the surveys we were given
  - Respondent demographics
  - Parenting skill knowledge
  - Child outcomes
  - Center reviews
- This analysis mostly involved pie and bar charts
  - Created functions to suit our needs
- Melanie and Christine requested the following two investigations

Analysis - Demographics

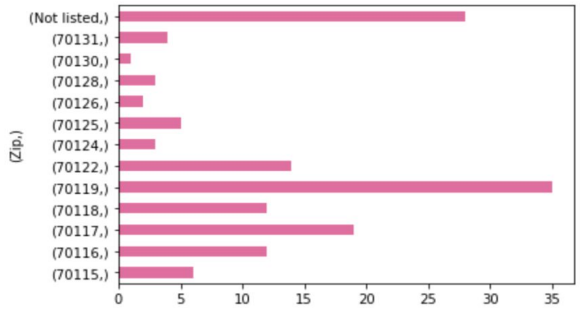
```
plotSection(["Income", "Highest Level of education"], 9, 11)
```

```
KEYS:
1. Income
2. Highest Level of education
```

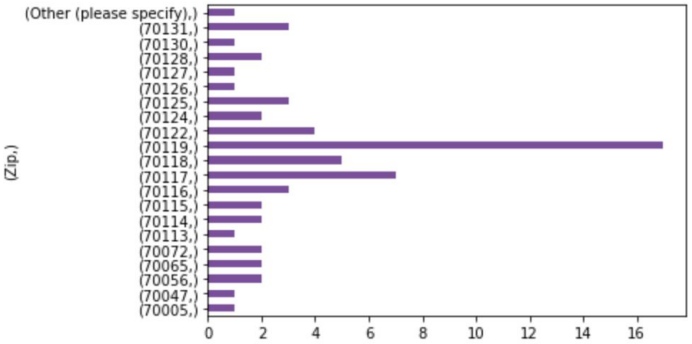


Analysis - Demographics

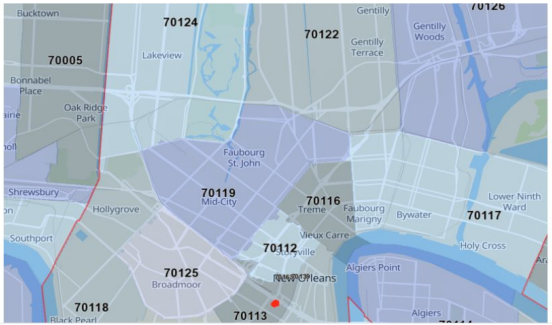
```
plotSection(["Zip"], 7, 8, plotBarsHoriz=True, plotBars="Zip")
```




```
printHorizBars(adult_FDb, "Zip")
```

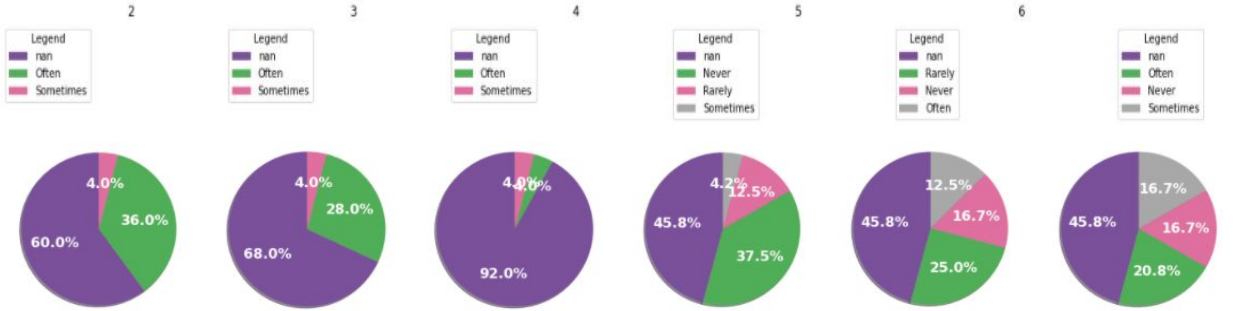


Participants travel quite far to attend the we play center.

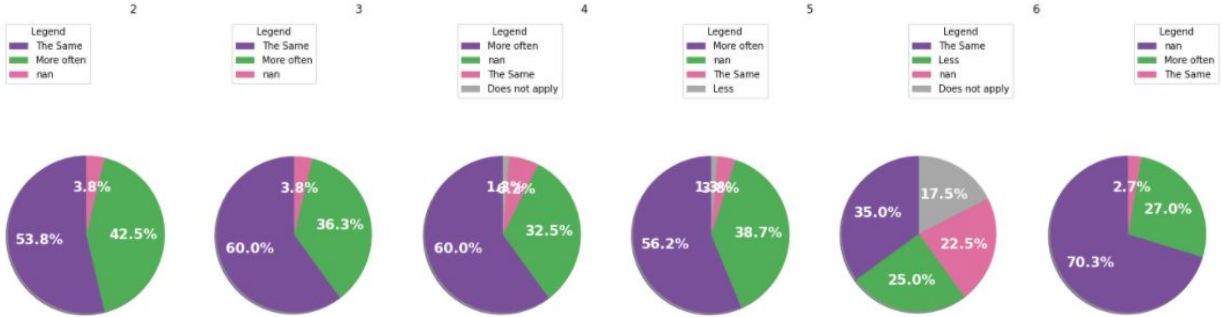


Analysis - Program Results

Parent/child interaction before WePLAY
KEYS:
1. Read to my child (Before WP)
2. Play with my child (Before WP)
3. Talk to my child (Before WP)
4. Listen to my child (Before WP)
5. Set limits with my child (Before WP)
6. Yell at my child (Before WP)



Parent/child interaction after WePLAY
KEYS:
1. Read to my child (Since WP)
2. Play with my child (Since WP)
3. Talk to my child (Since WP)
4. Listen to my child (Since WP)
5. Set limits with my child (Since WP)
6. Yell at my child (Since WP)



Recommendations

- Create long term survey plan
  - Chose uniform time interval, ie quarterly
  - Map questions more closely to desired logic model outcomes

- Map questions to Logic Model goal
  - Ie. Learning, socialization, skills etc.
  - Gauge learning from data rather than parents' personal reflection

What keeps you returning to We PLAY?