Family Movie Ratings Analysis

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Contents

Introduction

This analysis examines movie ratings from our family for 6 recent popular movies. The participants are:

- **Randy** (56 Father)
- **Elle** (42, Mother)
- **Ariah** (9, Daughter)
- **Alexandra** (6, Daughter)
- **Don** (82, Grandfather)

The movies rated include both focus films (Barbie and KPop Demon Hunters) plus 4 additional recent popular movies suitable for a wide age range.

Data Loading

Load Raw Data from Database

```
# Get all ratings with participant and movie details
ratings_data <- get_ratings_with_names(con)

# Display the dataset
knitr::kable(ratings_data,
             caption = "Complete Movie Ratings Dataset",
             col.names = c("Name", "Age", "Relationship", "Movie", "Year", "Genre", "Rating", "Notes"))
```

Table 1: Complete Movie Ratings Dataset

Name	Age	Relationship	Movie	Year	Genre	Rating	Notes
Don	82	Grandfather	Barbie	2023	Comedy/Fantasy	2	Too loud and colorful for me
Randy	56	Father	Barbie	2023	Comedy/Fantasy	3	Funny but not really my thing
Elle	42	Mother	Barbie	2023	Comedy/Fantasy	5	Loved the humor and message!
Ariah	9	Daughter	Barbie	2023	Comedy/Fantasy	4	Pink and fun, good movie
Alexandra	6	Daughter	Barbie	2023	Comedy/Fantasy	5	So pretty! I want to be Barbie
Don	82	Grandfather	Elemental	2023	Animation/Family	4	Nice story, easy to follow
Randy	56	Father	Elemental	2023	Animation/Family	4	Clever concept and execution
Elle	42	Mother	Elemental	2023	Animation/Family	5	Beautiful message about differences
Ariah	9	Daughter	Elemental	2023	Animation/Family	5	Ember and Wade are so cute together
Alexandra	6	Daughter	Elemental	2023	Animation/Family	4	Pretty fire and water characters
Don	82	Grandfather	Guardians of the Galaxy Vol. 3	2023	Action/Adventure	2	Too much action for me
Randy	56	Father	Guardians of the Galaxy Vol. 3	2023	Action/Adventure	4	Good conclusion to the trilogy
Elle	42	Mother	Guardians of the Galaxy Vol. 3	2023	Action/Adventure	3	Bit too intense in parts
Ariah	9	Daughter	Guardians of the Galaxy Vol. 3	2023	Action/Adventure	3	Good but sad parts made me cry
Alexandra	6	Daughter	Guardians of the Galaxy Vol. 3	2023	Action/Adventure	2	Too scary, did not finish
Don	82	Grandfather	KPop Demon Hunters	2023	Action/Comedy	1	Too confusing and loud
Randy	56	Father	KPop Demon Hunters	2023	Action/Comedy	1	Oh god, why can't girls stop singing this?
Elle	42	Mother	KPop Demon Hunters	2023	Action/Comedy	4	Surprisingly entertaining
Ariah	9	Daughter	KPop Demon Hunters	2023	Action/Comedy	5	Love the music and fighting
Alexandra	6	Daughter	KPop Demon Hunters	2023	Action/Comedy	3	Music was good but scary parts

Name	Age	Relationship	Movie	Year	Genre	Rating	Notes
Don	82	Grandfather	Spider-Man: Across the Spider-Verse	2023	Animation/Action	3	Good story, nice animation
Randy	56	Father	Spider-Man: Across the Spider-Verse	2023	Animation/Action	5	Amazing animation and story
Elle	42	Mother	Spider-Man: Across the Spider-Verse	2023	Animation/Action	4	Visually stunning
Ariah	9	Daughter	Spider-Man: Across the Spider-Verse	2023	Animation/Action	5	Best superhero movie ever!
Alexandra	6	Daughter	Spider-Man: Across the Spider-Verse	2023	Animation/Action	4	Pretty colors but long
Don	82	Grandfather	The Little Mermaid	2023	Musical/Fantasy	4	Classic story, well done
Randy	56	Father	The Little Mermaid	2023	Musical/Fantasy	3	Good but prefer the original
Elle	42	Mother	The Little Mermaid	2023	Musical/Fantasy	4	Beautiful songs and visuals
Ariah	9	Daughter	The Little Mermaid	2023	Musical/Fantasy	4	Ariel is brave and inspiring
Alexandra	6	Daughter	The Little Mermaid	2023	Musical/Fantasy	5	I want to be a mermaid princess!

Summary Statistics

```
# Get movie averages
movie_averages <- get_movie_averages(con)

knitr::kable(movie_averages,
             caption = "Movie Rating Averages",
             col.names = c("Movie Title", "Number of Ratings", "Average Rating", "Min Rating", "Max Rati
```

Table 2: Movie Rating Averages

Movie Title	Number of Ratings	Average Rating	Min Rating	Max Rating
Elemental	5	4.4	4	5
Spider-Man: Across the Spider-Verse	5	4.2	3	5
The Little Mermaid	5	4.0	3	5
Barbie	5	3.8	2	5
KPop Demon Hunters	5	2.8	1	5
Guardians of the Galaxy Vol. 3	5	2.8	2	4

```
# Overall statistics
cat("Dataset Summary:\n")
```

```
## Dataset Summary:
```

```
cat("Total ratings collected:", nrow(ratings_data), "\n")
```

```
## Total ratings collected: 30
```

```r
cat("Number of movies:", length(unique(ratings_data$movie_title)), "\n")
```

```
## Number of movies: 6
```

```r
cat("Number of participants:", length(unique(ratings_data$person_name)), "\n")
```

```
## Number of participants: 5
```

```r
cat("Average rating across all movies:", round(mean(ratings_data$rating), 2), "\n")
```

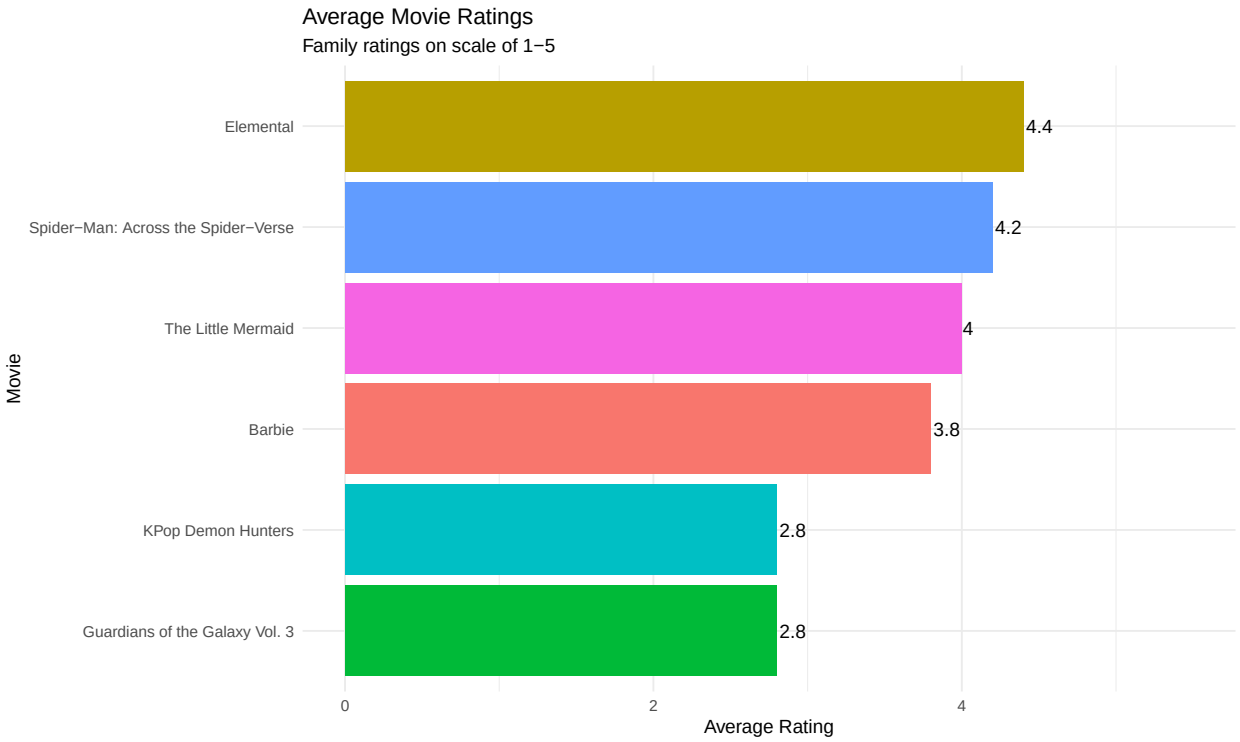
```
## Average rating across all movies: 3.67
```

Data Analysis

Rating Distribution by Movie

```r
# Create bar chart of average ratings by movie
movie_avg_plot <- movie_averages %>%
  ggplot(aes(x = reorder(title, avg_rating), y = avg_rating, fill = title)) +
  geom_col(show.legend = FALSE) +
  geom_text(aes(label = avg_rating), hjust = -0.1) +
  coord_flip() +
  labs(title = "Average Movie Ratings",
       subtitle = "Family ratings on scale of 1-5",
       x = "Movie",
       y = "Average Rating") +
  theme_minimal() +
  scale_y_continuous(limits = c(0, 5.5))

print(movie_avg_plot)
```



Ratings by Age Group

```r
# Create age groups for analysis
ratings_with_age_groups <- ratings_data %>%
  mutate(age_group = case_when(
    age <= 10 ~ "Children (6-9)",
    age <= 50 ~ "Adults (42-45)",
    age > 50 ~ "Senior (82+)"
  ))

# Average rating by age group
age_group_summary <- ratings_with_age_groups %>%
  group_by(age_group) %>%
  summarise(
    avg_rating = round(mean(rating), 2),
    count = n(),
    .groups = 'drop'
  )

knitr::kable(age_group_summary,
             caption = "Average Ratings by Age Group")
```

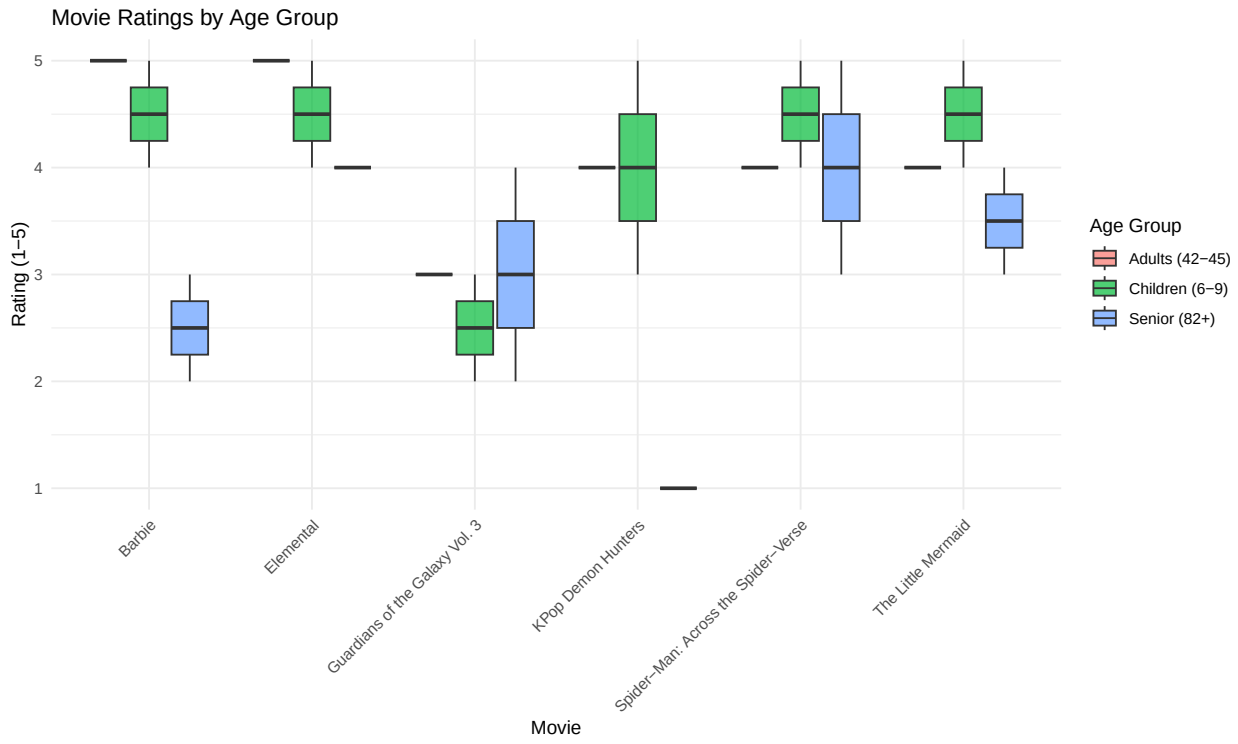
Table 3: Average Ratings by Age Group

age_group	avg_rating	count
Adults (42-45)	4.17	6

age_group	avg_rating	count
Children (6-9)	4.08	12
Senior (82+)	3.00	12

```
# Plot ratings by age group and movie
age_movie_plot <- ratings_with_age_groups %>%
  ggplot(aes(x = movie_title, y = rating, fill = age_group)) +
  geom_boxplot(alpha = 0.7) +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1)) +
  labs(title = "Movie Ratings by Age Group",
       x = "Movie",
       y = "Rating (1-5)",
       fill = "Age Group")

print(age_movie_plot)
```

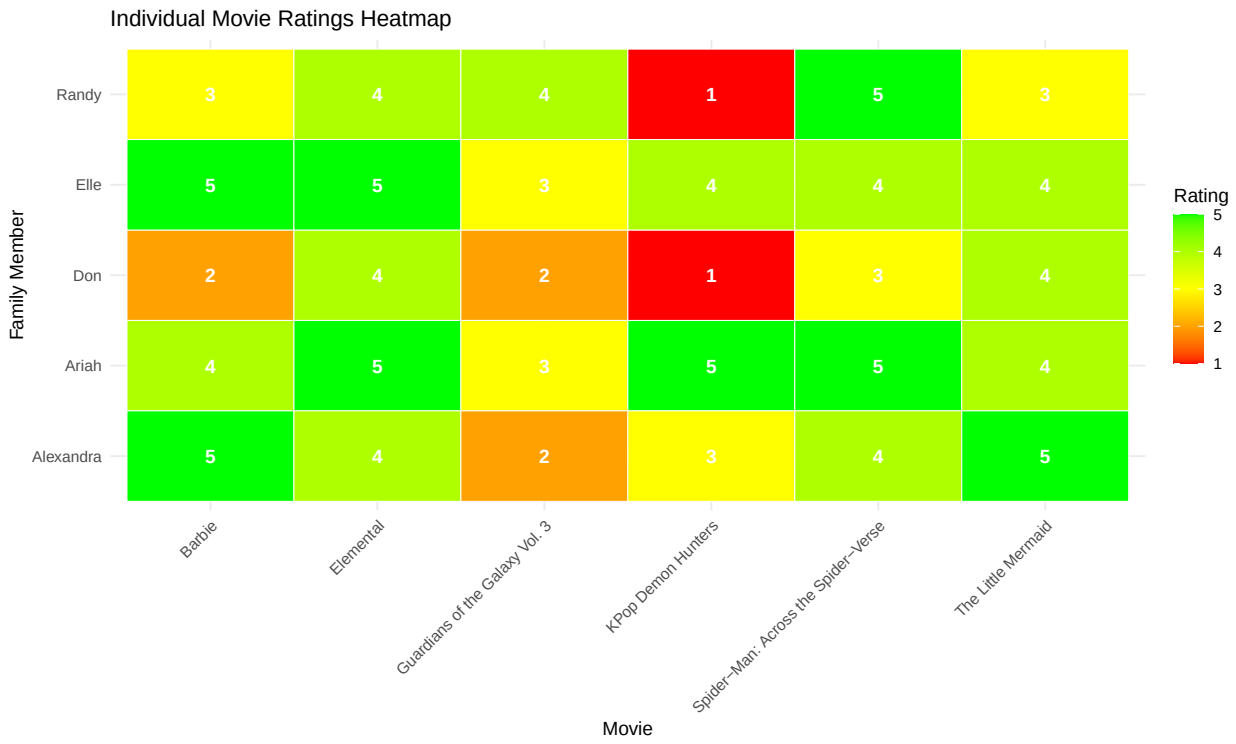


Individual Rating Patterns

```
# Heatmap of individual ratings
individual_plot <- ratings_data %>%
  ggplot(aes(x = movie_title, y = person_name, fill = rating)) +
  geom_tile(color = "white") +
  geom_text(aes(label = rating), color = "white", fontface = "bold") +
  scale_fill_gradient2(low = "red", mid = "yellow", high = "green",
                       midpoint = 3, limits = c(1,5)) +
```

```
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1)) +
  labs(title = "Individual Movie Ratings Heatmap",
       x = "Movie",
       y = "Family Member",
       fill = "Rating")

print(individual_plot)
```



Focus Movies Analysis

```
# Focus on the two focus movies
focus_movies <- ratings_data %>%
  filter(movie_title %in% c("Barbie", "KPop Demon Hunters"))

knitr::kable(focus_movies %>% select(person_name, age, movie_title, rating, notes),
             caption = "Ratings for focus Movies (Barbie & KPop Demon Hunters)")
```

Table 4: Ratings for focus Movies (Barbie & KPop Demon Hunters)

person_name	age	movie_title	rating	notes
Don	82	Barbie	2	Too loud and colorful for me
Randy	56	Barbie	3	Funny but not really my thing
Elle	42	Barbie	5	Loved the humor and message!
Ariah	9	Barbie	4	Pink and fun, good movie

person_name	age	movie_title	rating	notes
Alexandra	6	Barbie	5	So pretty! I want to be Barbie
Don	82	KPop Demon Hunters	1	Too confusing and loud
Randy	56	KPop Demon Hunters	1	Oh god, why can't girls stop singing this?
Elle	42	KPop Demon Hunters	4	Surprisingly entertaining
Ariah	9	KPop Demon Hunters	5	Love the music and fighting
Alexandra	6	KPop Demon Hunters	3	Music was good but scary parts

```
# Compare the focus movies
focus_comparison <- focus_movies %>%
  group_by(movie_title) %>%
  summarise(
    avg_rating = round(mean(rating), 2),
    ratings_range = paste(min(rating), "to", max(rating)),
    .groups = 'drop'
  )

knitr::kable(focus_comparison,
             caption = "focus Movies Comparison")
```

Table 5: focus Movies Comparison

movie_title	avg_rating	ratings_range
Barbie	3.8	2 to 5
KPop Demon Hunters	2.8	1 to 5

Key Findings

```
# Find highest and lowest rated movies
best_movie <- movie_averages$title[which.max(movie_averages$avg_rating)]
worst_movie <- movie_averages$title[which.min(movie_averages$avg_rating)]

# Find most generous and harsh raters
person_averages <- ratings_data %>%
  group_by(person_name, age) %>%
  summarise(avg_rating = round(mean(rating), 2), .groups = 'drop') %>%
  arrange(desc(avg_rating))

most_generous <- person_averages$person_name[1]
most_critical <- person_averages$person_name[nrow(person_averages)]

cat("Key Findings:\n")
```

```
## Key Findings:
```

```r
cat("• Highest rated movie:", best_movie,
    "(", max(movie_averages$avg_rating), "average )\n")
```

```
## • Highest rated movie: Elemental ( 4.4 average )
```

```r
cat("• Lowest rated movie:", worst_movie,
    "(", min(movie_averages$avg_rating), "average )\n")
```

```
## • Lowest rated movie: KPop Demon Hunters ( 2.8 average )
```

```r
cat("• Most generous rater:", most_generous,
    "(", max(person_averages$avg_rating), "average )\n")
```

```
## • Most generous rater: Ariah ( 4.33 average )
```

```r
cat("• Most critical rater:", most_critical,
    "(", min(person_averages$avg_rating), "average )\n")
```

```
## • Most critical rater: Don ( 2.67 average )
```

Technical Details

```r
# Show database structure
tables <- dbListTables(con)
cat("DDEV Database tables:", paste(tables, collapse = ", "), "\n")
```

```
## DDEV Database tables: movies, ratings, people
```

```r
# Show connection info
cat("\nDatabase connection details:\n")
```

```
##
## Database connection details:
```

```r
cat("Host: 127.0.0.1\n")
```

```
## Host: 127.0.0.1
```

```r
cat("Port: 3306\n")
```

```
## Port: 3306
```

```r
cat("Database: db\n")
```

```
## Database: db
```

```r
cat("User: db\n")
```

```
## User: db
```

Methodology Notes

- **Data Collection**: Family members rated movies on a scale of 1-5
- **Storage**: Ratings stored in MariaDB database via DDEV
- **Analysis**: Loaded into R dataframes using RMariaDB package
- **Reproducibility**: Complete DDEV setup ensures consistent environment across platforms

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Analysis completed on 2025-09-08 using R, MariaDB, and DDEV