

Audience

This dashboard is designed for the **general public**, especially individuals who play or are curious about the lottery.

The audience has **low to moderate data literacy**, so visuals are simplified to focus on trends rather than technical statistics.

Lottery officials and policymakers can also benefit from the findings, but the tone and visuals remain accessible to everyday players who may believe the lottery can be "gamed."

Purpose

The goal is to **challenge the myth** that persistence or number selection improves one's chance of winning.

Using data from **Mega Millions**, **Powerball**, and **Pick 10**, the visuals show that results are essentially random and that jackpots fluctuate unpredictably.

The **call to action** is twofold:

1. **Educate players** about probability and encourage responsible play.
2. **Encourage policymakers** to provide greater transparency around winning odds.
3. The message: *The jackpot isn't a lie because it doesn't exist — it's a lie because it's statistically unreachable.*

Medium

The analysis is presented through an **interactive Power BI dashboard** using **R-generated visuals**.

This medium was chosen for its ability to make complex statistical patterns intuitive and engaging.

Interactivity lets users explore each game type, hover for values, and see randomness firsthand — transforming data into a visual learning experience.

Design Choices

Design followed **Gestalt principles** of proximity, similarity, and balance:

- **Color:** Red = Powerball, Blue = Mega Millions, Green = Pick 10 — maintaining clear separation.
- **Text:** Simple titles and plain labels, minimal jargon.
- **Alignment & Spacing:** Grid-aligned visuals with consistent padding to keep focus on content.
- **Sizing:** Larger visuals (histogram, scatterplot) emphasize main findings; smaller density plots add context.

Ethical Considerations

Ethically, the dashboard avoids implying patterns or predictability that don't exist.

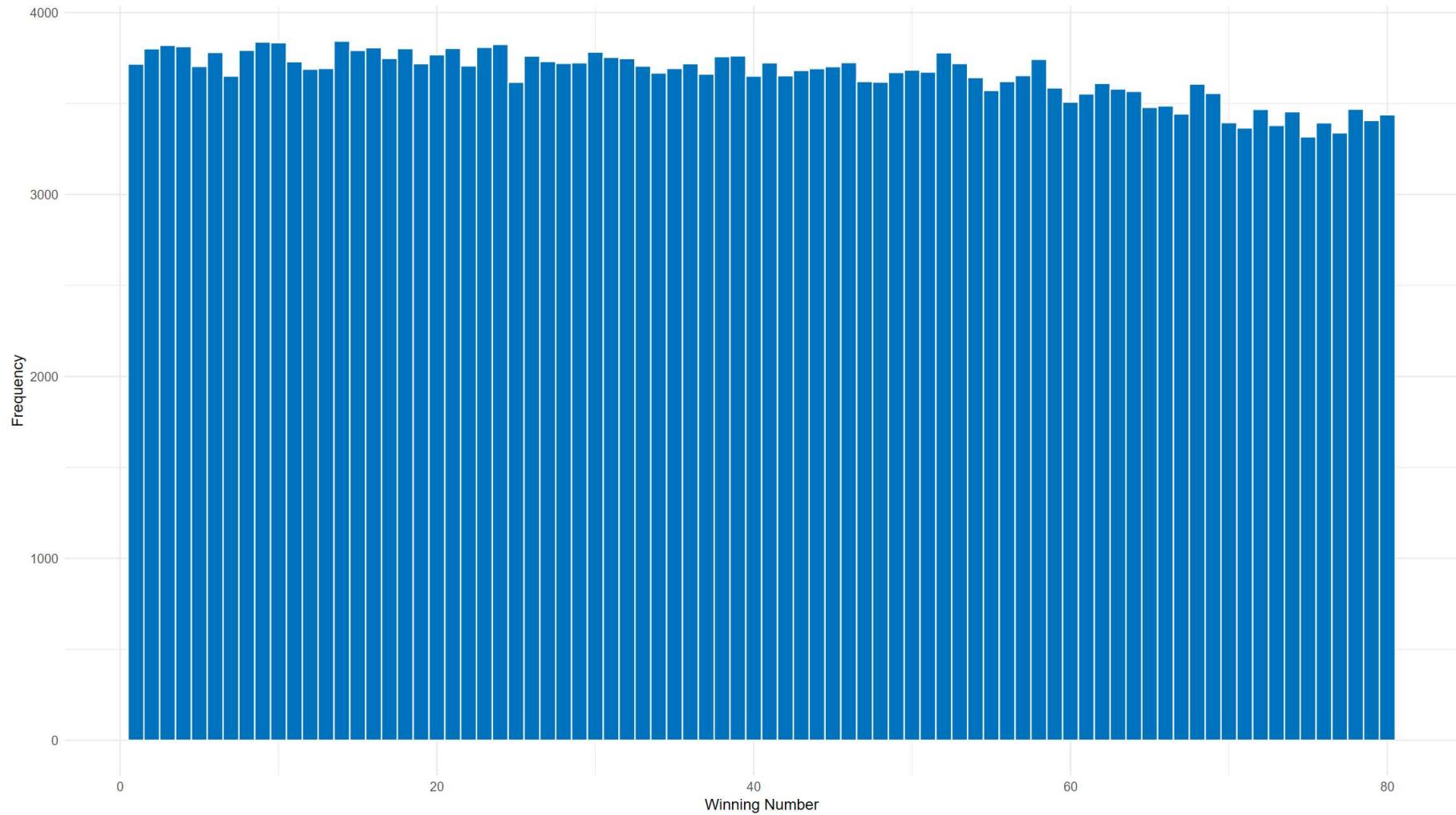
Visuals are designed to **inform, not manipulate**, ensuring transparency and data integrity.

By revealing randomness rather than glamorizing wins, the story promotes **financial awareness** and **critical thinking**.

The ethical stance is that predictive analytics should **educate responsibly** — empowering users to make informed decisions, not chase illusions.

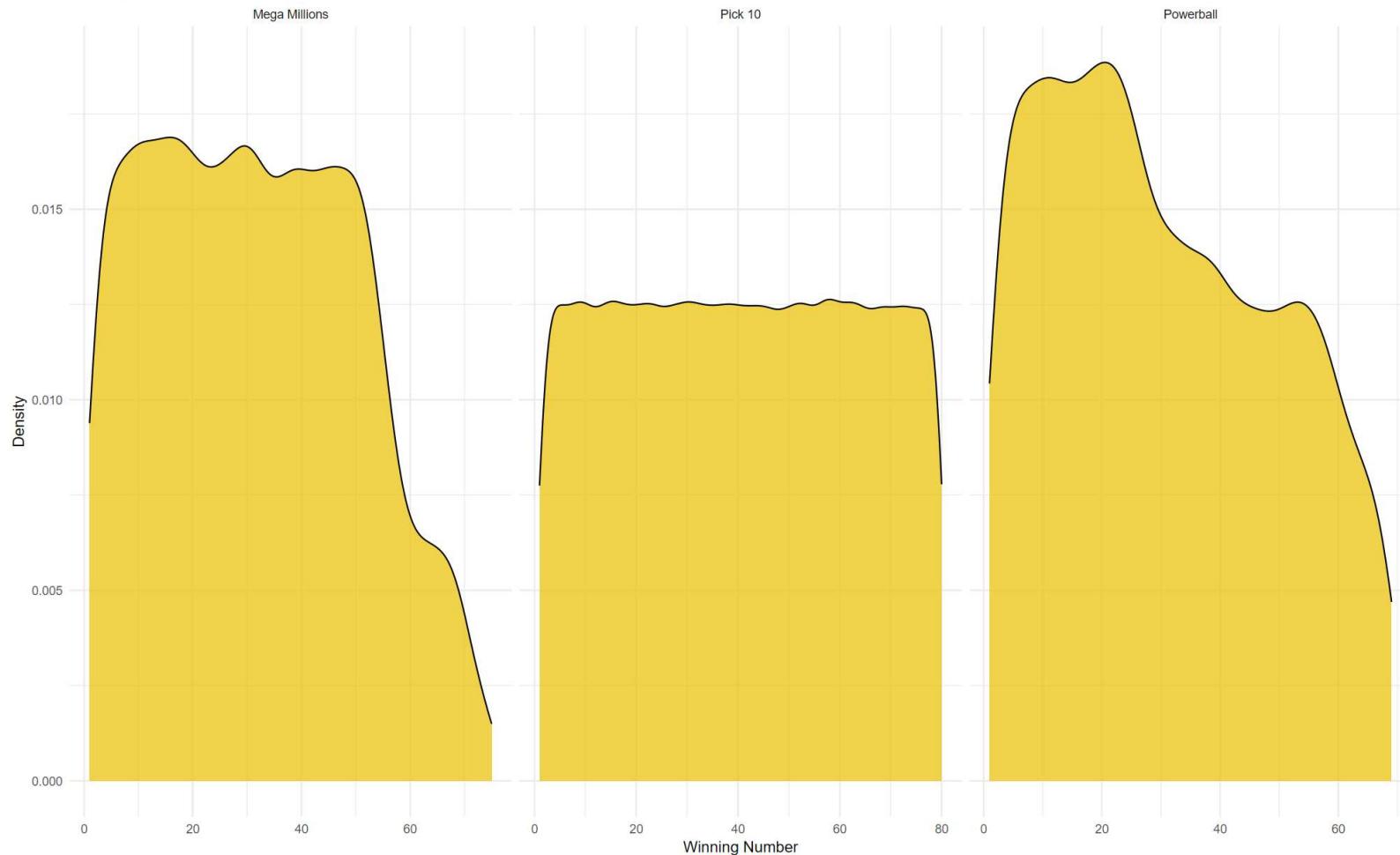
Winning Numbers

Distribution of Winning Numbers



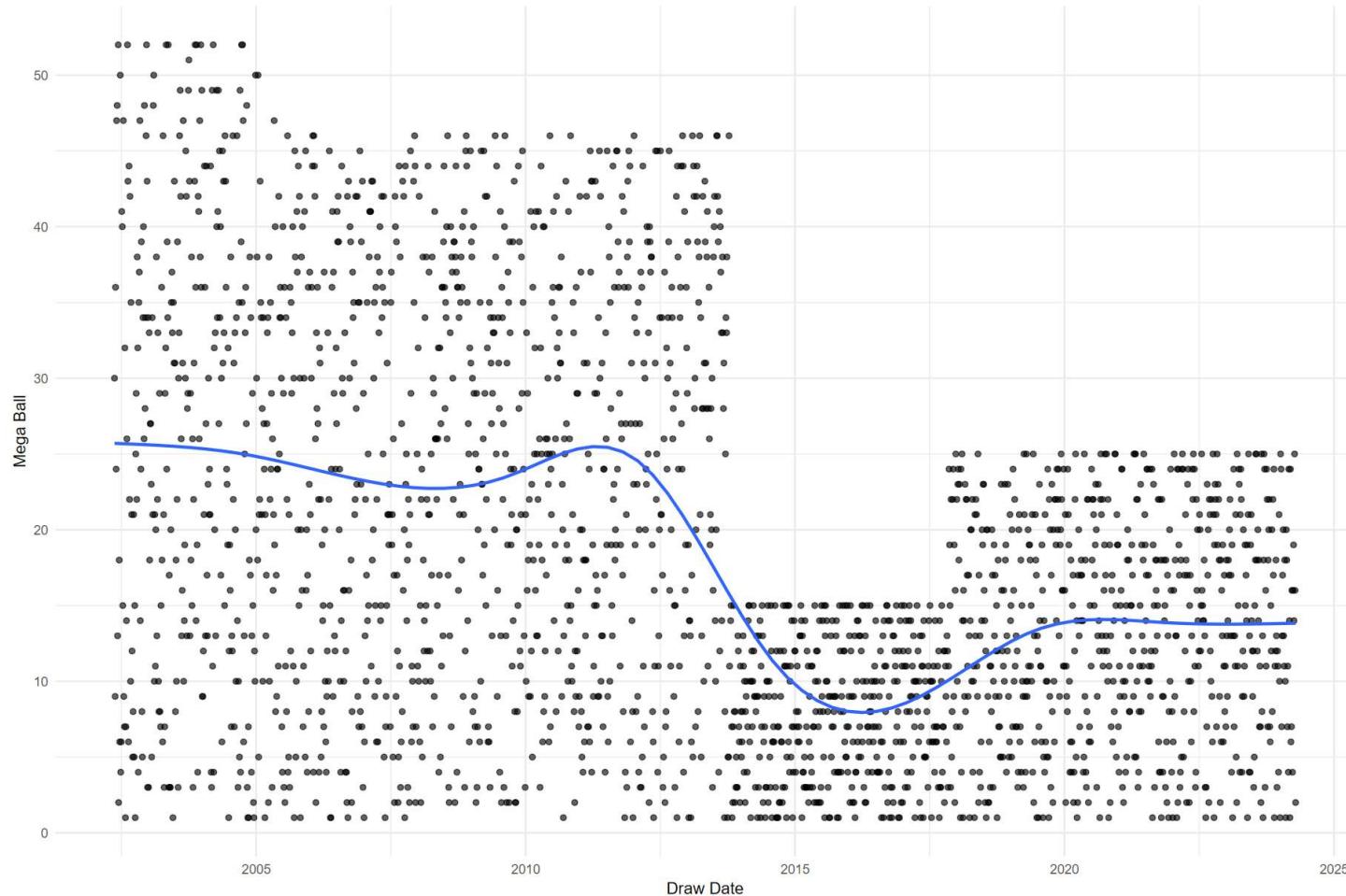
Winning Numbers and Game_Type

Density of Drawn Numbers by Game



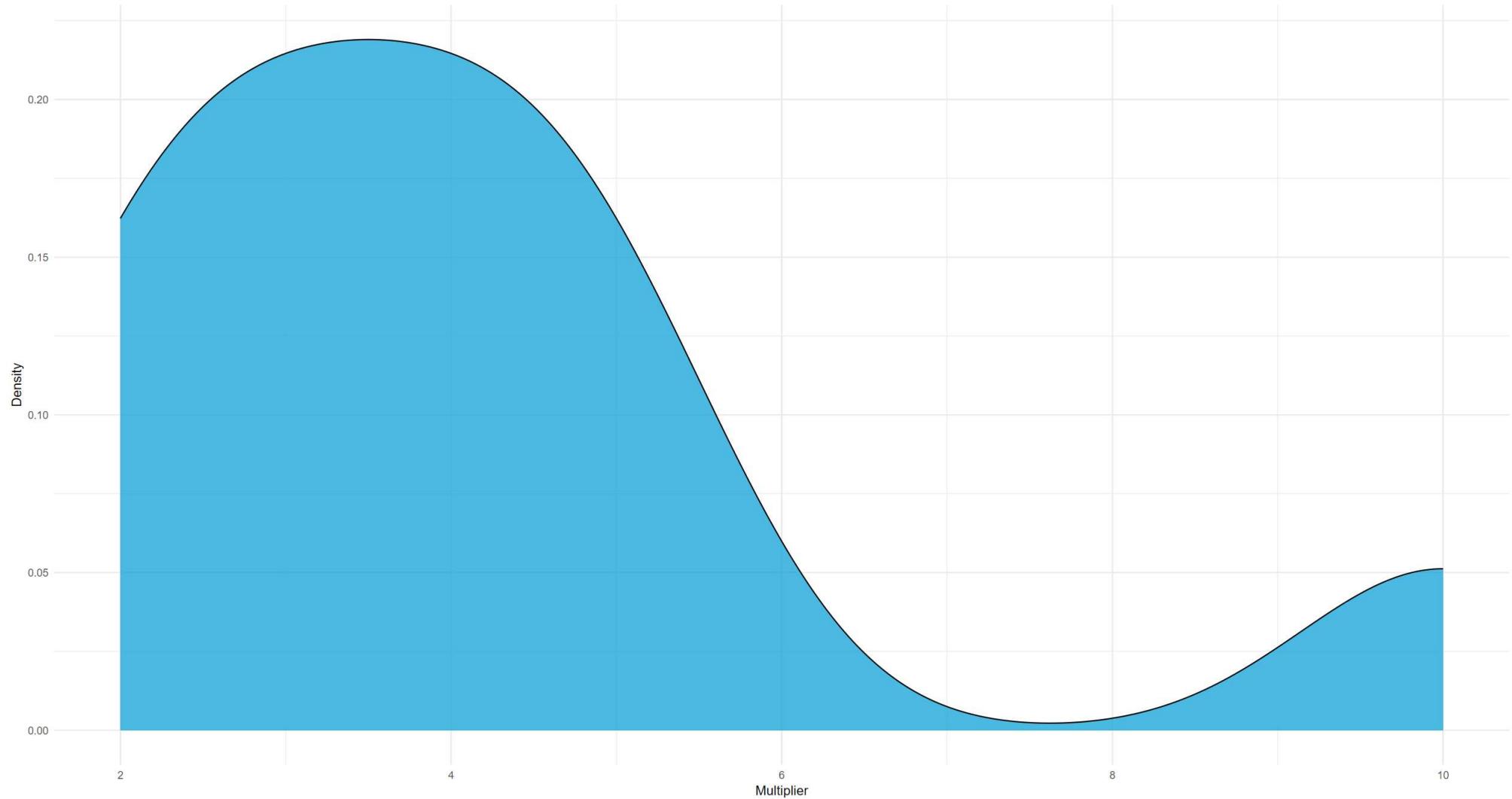
Mega Ball and Draw Date

Mega Ball Over Time



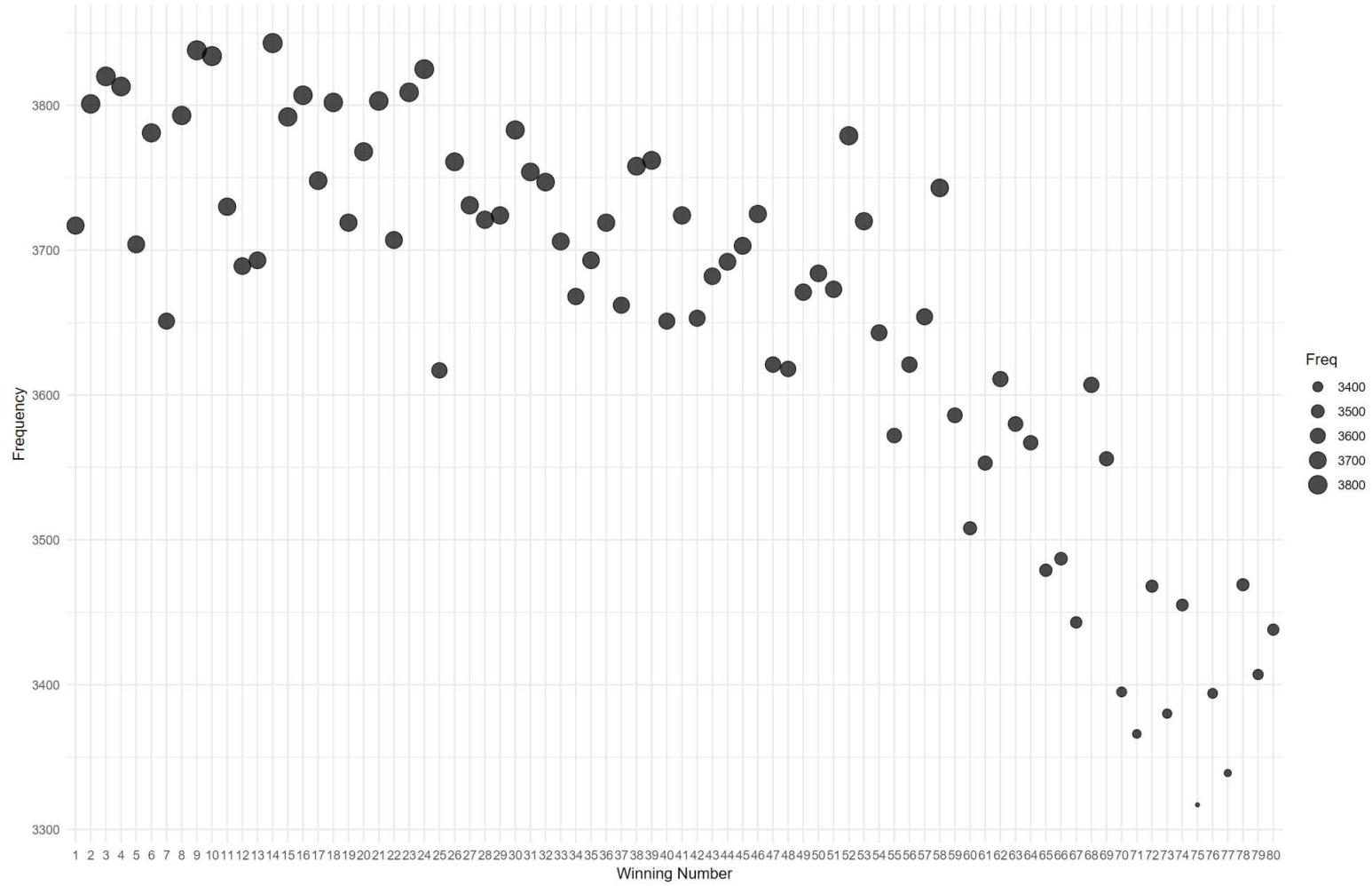
Multiplier and Game_Type

Density of Multiplier



Winning Numbers

Frequency of Drawn Numbers



Winning Numbers and Game_Type

Winning Numbers by Game (Small Multiples)

