

POKÉMON BASE STATS ACROSS GENERATIONS



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TOPICS AND MOTIVATION

Dataset Overview:

- Pokémon dataset (CRAN + GitHub)
- 949 Pokémon & 22 variables
- Includes 6 stats, 7 generations, 18 types

Motivation:

- Pokémon stats reflect strength in battle
- Power creep may lead to increased stats across generations

Research Question:

- How do Pokémon base stats vary across generations and primary types?

Hypothesis:

- Newer generations have higher average base stats across types





INTRODUCING THE DATA

GENERATIONS (7)

TYPES OF POKÉMON (18)

ATTACK



Strength of physical moves

DEFENCE



Resistance to physical attacks

HP



(Hit Points) How much damage it can take

**SPECIAL
ATTACK**



Strength of special (non-physical) moves

**SPECIAL
DEFENCE**



Resistance to special attack

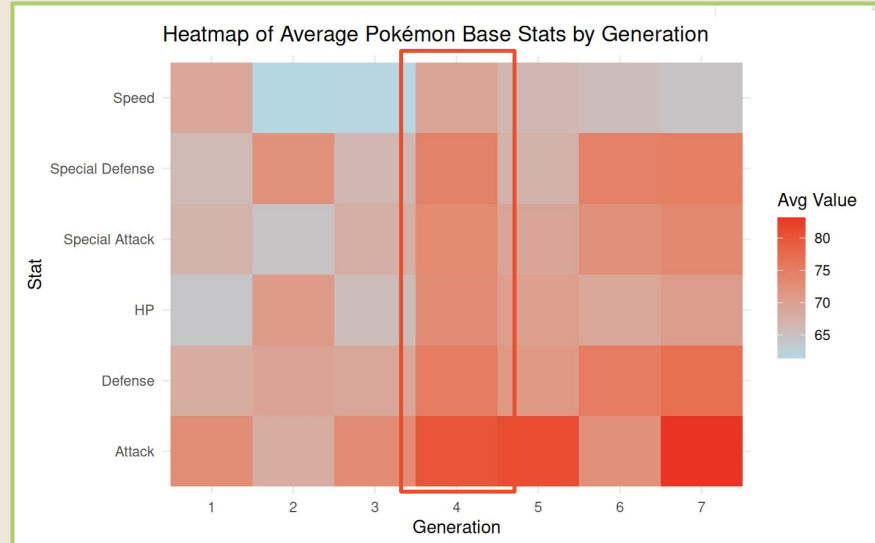
SPEED



Determines who moves first in battle

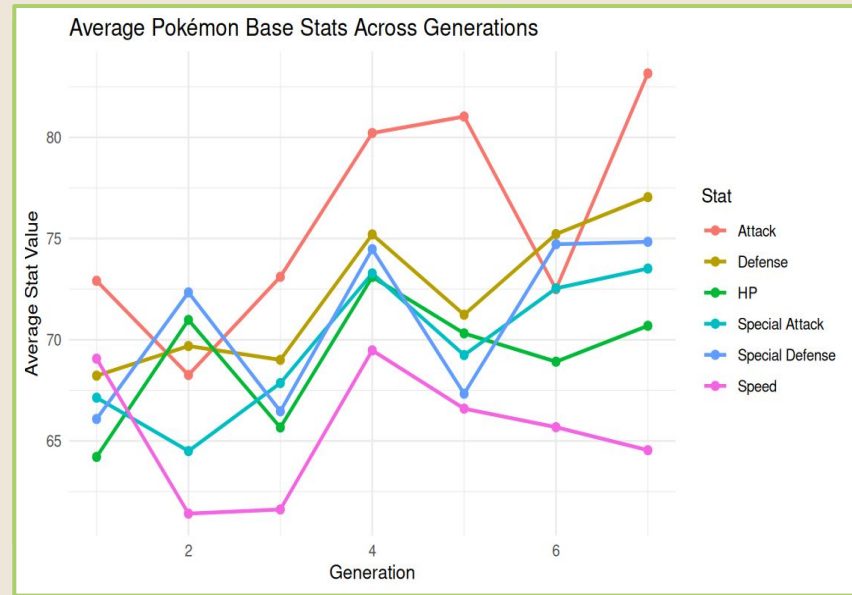
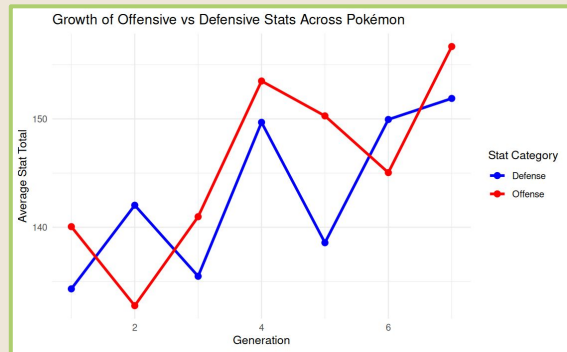
HEAT MAP ACROSS GENERATIONS

- Evidence of “**power creep**”
- Offensive stats (Attack, Special Attack) increase the most
- Defensive stats also rise, but more gradually
- Speed remains controlled
- **Gen 4** appears to be a major shift point where stat increases accelerate



LINE PLOT ACROSS GENERATIONS

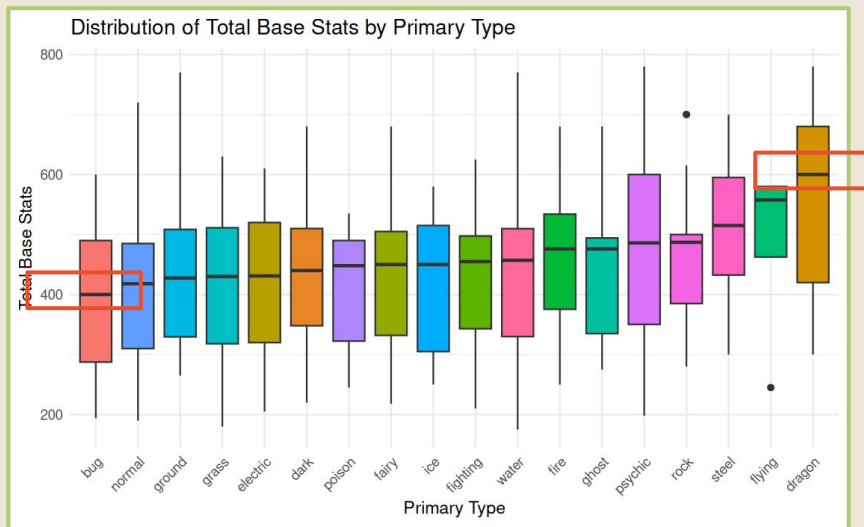
- Attack and Special Attack increase across generations
 - Suggests newer generations are more **battle-oriented**
 - **Major shift from Gen 3-4**
- Defensive stats also increase over time to compensate



BOXPLOT COMPARISON

- Total base stats vary across primary types
- Pokémon strength is not evenly distributed across types

type_1 <chr>	mean_total <dbl>
dragon	546.9487
steel	497.9333
flying	485.0000
normal	405.8378
poison	402.6000
bug	387.7722



DISCUSSION

SUMMARY

- Pokémon base stats generally increase across generations
- However, strength varies significantly across primary types
- **Hypothesis is not fully supported**

LIMITATION

- Data is sourced from a **community-driven** website
- Analysis does not include unreleased generations

FUTURE

- Include **additional generations** as new data becomes available
- Analyze generation 10 when it releases in 2027