# Power Creep in the Pokemon TCG

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## 1 What is Power Creep?

### 1.1 Introduction

According to an article on plarium.com, power creep is "when new elements are introduced into a game, with increased strength or abilities, making the existing elements much weaker or even useless." This ultimately results in a game where older elements seem underpowered and outclassed among the new elements. Power creep is a common practice in many competitive games, as it helps retention and keeps people interested in a game. So how does this factor in the Pokemon TCG? Let's look at an example of this in the form of the series mascot: Pikachu.

Pictured above on the left is the very first Pikachu card ever printed, all the way back in 1999. On the right, we have the most recent Pikachu card printed, being printed in 2024. In addition to being flashier and shinier, the Pikachu on the right has five times the amount of health as the Pikachu on the left, and it even does ten times the damage. What happened between 1995 and 2024 to trigger such a drastic change? This question is what inspired me to take a deeper dive into the history of the Pokemon TCG and its cards to further understand how power creep could have such a big impact on these cards.

### 1.2 Importing our libraries

The following code is run to import the necessary libraries used to explore the data:

```
[]: import numpy as np import pandas as pd
```

#### 1.3 Importing our dataset

The dataset I will be using for this study was taken from kaggle.com. The data is then imported with the code below:

```
[]: df = pd.read_csv("dataset/pokemon-tcg-data-master 1999-2023.csv")
    df.head()
```

```
[]:
              id
                   set series publisher generation release_date
                                                                              artist
        base1-1
                  Base
                         Base
                                    WOTC
                                               First
                                                          1/9/1999
                                                                        Ken Sugimori
                                                          1/9/1999
     1
        base1-2
                  Base
                         Base
                                    WOTC
                                               First
                                                                        Ken Sugimori
     2
        base1-3
                                    WOTC
                                               First
                                                          1/9/1999
                                                                        Ken Sugimori
                  Base
                         Base
                                                                     Mitsuhiro Arita
       base1-4
                  Base
                         Base
                                    WOTC
                                               First
                                                          1/9/1999
     4 base1-5
                  Base
                         Base
                                    WOTC
                                               First
                                                          1/9/1999
                                                                        Ken Sugimori
```

```
types ... \
        name set_num
    Alakazam
                        ['Psychic']
  Blastoise
                   2
                          ['Water']
1
2
    Chansey
                   3 ['Colorless'] ...
3
 Charizard
                   4
                           ['Fire']
    Clefairy
                     ['Colorless']
                   5
                               retreatCost convertedRetreatCost
                                                                     rarity \
  ['Colorless', 'Colorless', 'Colorless']
                                                             3.0 Rare Holo
  ['Colorless', 'Colorless', 'Colorless']
                                                             3.0 Rare Holo
1
                              ['Colorless']
                                                             1.0 Rare Holo
3 ['Colorless', 'Colorless', 'Colorless']
                                                             3.0 Rare Holo
                              ['Colorless']
4
                                                             1.0 Rare Holo
                                          flavorText nationalPokedexNumbers \
  Its brain can outperform a supercomputer. Its ...
                                                                       [65]
  A brutal Pokémon with pressurized water jets o...
                                                                        [9]
2 A rare and elusive Pokémon that is said to bri...
                                                                      [113]
3 Spits fire that is hot enough to melt boulders...
                                                                        [6]
4 Its magical and cute appeal has many admirers...
                                                                      [35]
               legalities
                                                       resistances rules \
0 {'unlimited': 'Legal'}
                                                               NaN
                                                                     NaN
1 {'unlimited': 'Legal'}
                                                               NaN
                                                                     NaN
2 {'unlimited': 'Legal'}
                            [{'type': 'Psychic', 'value': '-30'}]
                                                                     NaN
                           [{'type': 'Fighting', 'value': '-30'}]
3 {'unlimited': 'Legal'}
                                                                     NaN
                            [{'type': 'Psychic', 'value': '-30'}]
4 {'unlimited': 'Legal'}
                                                                     NaN
 regulationMark ancientTrait
             NaN
                          NaN
0
             NaN
                          NaN
1
2
             NaN
                          NaN
3
             NaN
                          NaN
             NaN
                          NaN
```

[5 rows x 29 columns]

Let's also break down what all of the data in the dataset means.