**Is Power Creep In Pokémon?**

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**Abstract**

This study investigates the phenomenon of power creep in Pokémon. Power creep is evident in most games that have been around for a long time, therefore, this paper aims to analyze whether Pokémon follows this exact trend. The findings of this paper indicate that there is a clear increase in average base stat total over time, and it is particularly noticeable when looking only at Generation 1 and Generation 9. The notion is largely driven by the growing prevalence of legendary, mythical, paradox, ultra-beast, and Pokémon that evolve from previous generations, such as Generation 4 and 8. The correlation between evolution stage and base stats is moderately positive, type effectiveness proves difficult to quantify due to the limitations of this paper, measuring the effectiveness of types solely through weaknesses and resistances. Furthermore, the type effectiveness does not take into account dual-type Pokémon, which a majority of Pokémon are. The analysis of move base power shows no direct link to power creep

because earlier generations introduced moves that we still use to this day (Eg. fire blast, pound, tackle, draco meteor). Lastly, while individual maximum stats have not increased consistently, the overall stat distribution has become more balanced, reinforcing the presence of power creep throughout the franchise.

Is Power Creep Real in Pokémon?

Imagine creating a game that must remain compelling for 25 years. How would you continuously introduce new concepts to excite and engage both new and returning players? This is the problem game developers face. There are two ways developers can solve this problem: break fundamental rules of the game or introduce elements that are more powerful and impactful than the previous ones. While these approaches give the audience a more compelling game by introducing overpowered characters or mechanics, they will only temporarily boost the excitement of the game and will often lead to a disruption in overall game balance. This phenomenon is called power creep.

To better understand the nature of power creep, let’s look at the Pokémon Training Card Game Figures 1 and 2. Both of the Pokémon selected in Figures 1 and 2 were completely randomized to remove any selection bias for the Pokémon cards.

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| *Figure 1* represents 2 different Blissey cards in 2 completely different eras – left with Unseen Forces (released in 2005), and right with Silver Tempest (released in 2022) | |

Let's look at the left ex-Card, which was released in 2005. Blissey has 160 HP, a Poke-Power that allows you to evolve and heal your Pokémon at the expense of losing all of the energy cards attached to the evolved Pokémon, a one energy supporting move, and a 4 energy flat 60 base damage move. On the right side, the Blissey V from Silver Tempest released in 2022 has an ability that does a fraction of what the old Blissey Ex did but at no harm to the Blissey card, and an attack that combines Unseen Forces’ Blissey Energy Absorption into an attacking move that scales off of how many energies the Pokémon have. Lastly, the HP stat of the Silver Tempest Blissey is almost 100 hit points higher than the Unseen Forces Blissey.

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| *Figure 2* represents 2 different Boffalant cards in 2 completely different eras – left with Legendary Treasures (released in 2013), and right with Stellar Crown (released in 2024) | |

Next, we will take a look at Bouffalant in *Figure 2*. Both Bouffalants have the same HP (hit points), but hit points do not show the full picture of each card. The Bouffalant on the right (Stellar Crown) has an ability called Curly Wall, where all basic normal-type Pokémon take 60 less damage from your opponent’s Pokémon when Bouffalant is on the field. If any attacks are less than 60 damage from the opponent, Bouffalant is going to take no damage. Looking at the Stellar Crown Bouffalant, it has a move that costs 3 colourless energy (so any energy type will work) to do 130 damage to your opponent at the cost of not being able to attack the next turn. On the other hand, if we look at the Legendary Treasures Bouffalant, 2 colourless energy to do 20 damage + 70 damage if your Pokémon was knocked out the turn before, and a 4 colourless energy attack that does 80 damage, and if heads, it will do 20 damage to itself. Though the 20 + 70 damage looks enticing, it is very conditional and limited to pull off because to win a Pokémon TCG (Training Card Game) match, players must take 6 prize cards, which are taken from knocking your opponent’s Pokémon out, and therefore you only have 5 chances to use this move. However, the 6 target number is even less nowadays because when EX cards and V cards are knocked out, your opponent takes 2 prize cards.

Pokémon games do not shy away from power creep either by introducing powerful Pokémon each generation through their stats, abilities, and moves. For instance, giving Zacian-Crowned one of the best typings in the game – fairy and steel – giving it great overall stats (Appendix 1) with an insanely broken ability, Intrepid Sword – giving Zacian-Crowned a +1 attack boost to Zacian every time it switches in. Steel is the best defensive typing with 10 resistances and 1 immunity, and fairy is a good defensive typing and good offensive power. With the fairy/steel combination, Pokémon have 2 immunities (poison/dragon), 9 resistances, and only 2 weaknesses in fire and ground. Another Pokémon introduced in that exact generation was Urshifu. Urshifu breaks the fundamental game mechanics by being the first Pokémon to be able to hit through Protect/Detect/Spiky Shield (without using the move Feint) with the ability Unseen Fist. Furthermore, Urshifu’s signature moves – Wicked Blow and Surging Strikes – are guaranteed to critical hit, ignoring attack drops like Intimidate or defensive boosts, making the typical ways of slowing down physical Pokémon ineffective.

This study intends to investigate whether GameFreak statistically avoided the power creep phenomenon that is present in most series-based games. To explore this, the following research questions are addressed: Is there an overall increase in average base stats throughout the generations before and after the filters? How do we define a “good” or “bad” type? Is the average base power of a Pokémon move affected by power creep? Do max/average base stats increase as the Pokémon series progresses? Is there a correlation between average evolution stage and generation? The answers to these questions will provide valuable insights into GameFreak’s approach to balancing gameplay mechanics and maintaining competitive integrity over multiple generations.

**Methodology**

This study employs mainly quantitative data such as base stats of Pokémon, type chart, movebase power and accuracy, and the generation number to compare key metrics. The data in this study was mainly collected by *PokeAPI*, an API (Application Programming Interface) where data about any Pokémon or generation can be gathered. Additionally, the type effectiveness chart, which outlines super-effectiveness, not-very-effective, and no effect was sourced through Kaggle, a platform for data scientists and data analysts to analyze various publicly available datasets created by users.

Given that the entire dataset was forked through GitHub, there were extensive amounts of unnecessary data that had to be removed to ensure data relevancy. The necessary datasets were cleaned through the *clean.py* program, removing any empty cells in the CSV. Then, the data was further processed in an SQL database, and any unnecessary data was removed here. Within *PokemonCompleteStats.xlsx,* additional columns like Generation ID, base stat total, and Pokémon’s typing were added using SQL joins and Python programs.

I analyzed Pokémon from National Dex numbers 1 to 1025, which excludes alternative forms like Galarian, Hisuian, and Alolan forms as they share the same Pokédex numbers with their original counterparts and have identical Base Stat Totals that are redistributed among different stats. Pokémon gimmicks such as Mega Evolutions, Dynamax, and Gigantamax forms were not included in the analysis either. Additionally, Pokémon stats and base power of moves were evaluated based on the current generation of games – Pokémon Scarlet and Violet. Therefore, accounting for any buffs or nerfs GameFreak has implemented, such as Fire Blast’s power adjustment from 120 to 110, or Dugtrio and Beartic receiving a +20 base attack buff in Sun and Moon.

**Results**

| Figure 3 represents the average base stat total per generation, sorted by highest base stat total per generation to lowest |
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Figure 3 illustrates the highest average base stat total per generation, highlighting clear differences across the mainline games. The top three generations with the highest average base stat totals are Generation 9 (*Scarlet and Violet*), Generation 7 (*Sun and Moon*), and Generation 4 (*Diamond, Pearl, Platinum*). These generations show a noticeable upward trend in average base stats, with Generation 9 leading all others. In contrast, the generations with the lowest average base stat totals are Generation 1 (*Red, Blue, Yellow*), Generation 2 (*Gold and Silver*), and Generation 3 (*Ruby, Sapphire, Emerald*). These earlier generations cluster at the bottom end of the distribution, indicating a general increase in average base stats over time. The difference between the highest and lowest averages reflects how base stat distributions have shifted across generations, which will be further analyzed in the discussion section.

| Figure 4 represents the median base stat total per generation |
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*Figure 4* illustrates the median base stat total (BST) for each generation, offering an alternative perspective to the mean when analyzing central tendency. Generation 4, which includes a high number of fully evolved and mythical Pokémon, shows a more skewed median BST due to the wide variability in stat distributions. In contrast, smaller generations like Generation 6 exhibit greater inconsistencies, largely because of their limited sample sizes. With fewer Pokémon introduced, individual entries have a disproportionate impact on averages and distributions, reducing statistical stability.

The correlation between generation ID and base stat total is 0.146, indicating a very weak positive relationship. In other words, as generation numbers increase, Pokémon base stats tend to rise slightly, but not consistently. This weak correlation suggests that generation alone is not a strong predictor of a Pokémon’s overall strength.

| Figure 5 represents the number of abilities introduced every generation |
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Figure 5 represents the number of abilities introduced in each generation. Generations 1 and 2 have no abilities, as abilities were first introduced in Generation 3. While there's no quantitative way to measure the strength of a Pokémon’s ability, it’s clear that not all abilities are created equal—some are significantly more powerful than others.

In the earlier generations, up until Generation 5, strong abilities were often given to weaker Pokémon to maintain balance. However, in later generations, these powerful abilities began to be paired with already strong Pokémon. For example, Huge Power and Pure Power are two potent abilities introduced in Generation 3. They were originally balanced by being given to Pokémon with low base Attack stats like Azumarill. Azumarill was introduced in Generation 2 and was given the Huge Power ability (in Generation 3). It has a base attack of 50, which effectively becomes 100 with Huge Power. Medicham was introduced in Generation 3 and was given Pure Power, which is functionally the same ability as Huge Power. Medicham has a base attack of 60, which doubles to 120.

This balance changed in Generation 6, where two Mega Evolutions—Mega Medicham and Mega Mawile—were given Huge Power. Mega Medicham has 100 base Attack, which becomes 200 with Pure Power. Mega Mawile has 105 base Attack, which becomes 210 with Huge Power. To put the attack stat into perspective, the top five highest base Attack Pokémon without any ability boosts are: Mega Mewtwo-X (190), Mega Heracross (185), Kartana (181), Deoxys-Attack (180), and Primal Groudon (180).

Generation 3 also introduced the Speed Boost ability, which was originally assigned to Pokémon with relatively weak stats, such as Ninjask, Yanmega, Sharpedo, and Scolipede. This balance was disrupted when Blaziken received Speed Boost and a Mega Evolution in Generation 6. This made Blaziken so powerful that it was immediately placed in the Ubers tier by Smogon, an online platform for competitive Pokémon battling. Smogon tiers range from Ubers (the highest) to PU (the lowest), with Ubers reserved for legendary and overpowered Pokémon that are banned from the standard OU (OverUsed) tier.

To show how game-changing Speed Boost can be, Espathra is a Generation 9 Pokémon with relatively average stats (as shown in Appendix 2). However, despite its unimpressive base stats, Espathra was immediately sent to the Ubers tier due to the sheer power of Speed Boost. In contrast, none of the original four Speed Boost Pokémon were ever considered Uber-worthy.

Generation 8 introduced unprecedented abilities. Urshifu’s Unseen Fist allows its attacks to bypass Protect, which breaks a core game mechanic—Protect is meant to guarantee immunity from most attacks (excluding the rarely used move Feint). Another broken ability introduced in Generation 8 is Zacian-Crowned’s Intrepid Sword, which boosts its Attack stat by 50% on entry. Combined with one of the best typings in the game, Fairy/Steel, and a base 170 attack stat, Zacian-Crowned became so dominant that it was the second Pokémon ever banned from the Ubers tier (after Mega Rayquaza in Generation 6). In response, Game Freak nerfed Zacian in Generation 9 by limiting Intrepid Sword’s activation to only its first switch-in and reducing its Attack stat from 170 to 150.

In Generation 9, new abilities shook the competitive scene. The Ruinous Quartet—Wo-Chien, Ting-Lu, Chi-Yu, and Chien-Pao—each introduced abilities that reduce a specific stat (Attack, Defense, Special Attack, or Special Defense) of all other Pokémon on the field by 25%. Another game-breaking ability from Generation 9 is Zero to Hero, a signature ability that increases a Pokémon’s base stat total by 193 simply by switching out once.

These examples only scratch the surface of how ability design has shifted over generations, from being used to balance weaker Pokémon to making already powerful Pokémon overwhelming. The evolution of abilities highlights a significant trend: as Pokémon generations progress, game balance has increasingly leaned toward power creep.

| Figure 6 represents the average base power between damage classes (physical/special) per generation |
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Figure 6 illustrates the average base power of moves across damage classes (physical and special), and investigates whether there is any correlation between base power and generation. Certain moves were excluded from this analysis (see Appendix 3). Based on the data, there does not appear to be any meaningful correlation between the generation in which a move was introduced and its average base power.

| Figure 7 represents a column heatmap of the max base stats per generation |
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Figure 7 illustrates the maximum base stats—Attack, Defense, HP, Special Attack, Special Defense, and Speed— of each generation. This graph showcases that not all Pokémon with high base stat came from later generations; some even came from earlier generations. Some examples are defence and special defence coming in generation 2 and the top 2 maximum hit points coming in from Generation 1.

| Figure 8 represents the ranking of typing based on offensive and defensive capabilities |
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*Figure 8* illustrates the typing based on offensive and defensive capabilities using *RankAlgorithm.py*. This algorithm calculates an offensive and defensive score based on type matchups, which is determined by how each type interacts with other types. The scoring system is as follows:

* Offensive: No effect giving a -2, super effective +2, not very effective -1, and neutral attack +1
* Defensive: neutral +1, not very effective +1, super effective giving -2, no effect +2.

The average score is derived by adding the offensive and defensive scores and then dividing by 2. The grass and bug-type Pokémon are the weakest type, reflected by their weaknesses and limited resistances. Interestingly, Ghost types have the highest average score, despite being known more for their offensive capabilities rather than their defensive prowess. Additionally, it is surprising that the Steel and Dragon types, fall into the middle range of typings even though they are widely considered among the strongest types in competitive play. Together with Fairy, these three types form the so-called “Steel-Dragon-Fairy core,” a prevalent strategic trio in competitive Pokémon due to their excellent synergy and mutual coverage.

| Figure 9 represents the weighted average of typing based on how many Pokémon of a certain type were introduced in that generation |
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Figure 9 displays the weighted average of typing effectiveness based on the number of Pokémon introduced in each generation. These scores were calculated by multiplying the average effectiveness score of each type by the number of Pokémon of that type in a given generation, then dividing by the total number of Pokémon introduced in that generation (see Appendix 5 for details). This method yields a weighted average typing score per generation.

Generations 9 and 6 rank the highest in this analysis, likely due to the introduction of a new type and the prominence of powerful typings. Generation 6 introduced the Fairy type, widely regarded as one of the strongest in the game, while Generation 9 includes many Paradox and Legendary Pokémon, a majority of which are Dark-type, contributing positively to their generation’s average effectiveness.

In contrast, Generation 8 ranks the lowest. This may be attributed to a relatively small number of new Pokémon introduced and the absence of impactful new typings or standout type distributions.

While each generation features its unique roster of Pokémon, outliers can skew the overall averages. These outliers typically fall into specific categories: Baby, Legendary, Mythical, Paradox, and Ultra Beast Pokémon. The next step in this analysis is to examine whether the proportion of these special categories within a generation has a statistically significant effect on that generation's average base stat total.

| Figure 10 represents the average base stat total of each generation after all Pokémon inclusive in the categories (baby, legendary, mythical, ultra beast, and paradox) Pokémon were removed |
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*Figure 10* represents the average base stat total of each generation after all Pokémon within these categories mentioned above were removed. Compared to the graph in *Figure 4*, the graph maintains a relatively unchanged ranking but with lower numbers. However, the generations with the most amount of legendary/mythical/paradox/ultra beast Pokémon saw the most significant drops. Generation 3 had a large number of Legendary and Mythical Pokémon, Generation 7 introduced the Ultra Beasts and featured many Mythicals, Generation 8 brought in numerous powerful Legendary Pokémon, Generation 9 introduced Paradox Pokémon and a significant number of Legendaries. The substantial decreases in average stats for these generations highlight how heavily skewed their base stat totals were by the inclusion of high and low-stat special-category Pokémon.

| Figure 11 represents the difference between average base stat total and average base stat total after specific categories were removed (baby, legendary, mythical, ultra beast, and paradox) |
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*Figure 11* shows the difference between the average base stat total of all Pokémon and the average base stat total after excluding specific categories: baby, legendary, mythical, Ultra Beast, and Paradox Pokémon. When removing all of these categories, we see a significant drop in average stat for the newer generations, potentially indicating there is an increasing reliance on high-stat special Pokémon, hinting at a subtle form of power creep introduced through these categories. This trend can be seen from generation 4 onwards as there is a steady upward trend in the difference between before and after filter BST, with generation 8 being an outlier. Whereas in generations 1 and 2, there is a minimal change in average base stat totals, reinforcing that their Pokémon lineup included fewer special Pokémon. Overall, this suggests increasing disparity between average Pokémon and those that meet specific competitive or filter criteria, possibly reflecting power creep, more specialized designs, or meta-focused balancing by developers.

| Figure 12 represents the average evolution stage per generation after specific categories were removed (baby, legendary, mythical, ultra beast, and paradox) |
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*Figure 12* showcases the average evolution stage per generation after excluding specific categories (baby, legendary, mythical, Ultra Beast, and paradox). This graph is used to determine whether there is a correlation between the average evolution stage between generations and the average base stat total between generations. Most generations cluster around an average evolution stage of approximately 1.6, indicating a consistent trend. However, there are 2 notable exceptions: Generation 4 with 1.83 and Generation 8 with 1.71. This overall consistency suggests that, once the excluded categories are removed, the majority of Pokémon fall into one-stage evolutionary lines.

| Figure 13 represents the average base stat total per generation per stat |
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*Figure 13* represents the average base stat total per generation per stat. Across all stats, there is a general upward trend in average stats per generation from generation 1 to 9, suggesting that there is power creep. Generation 4 marks an important point in this trend, as there is a noticeable increase in average base stats compared to earlier generations. However, Generation 6 breaks this trend slightly because of the relatively small number of new Pokémon introduced, impacting the overall average. On the other hand, Generation 7 is a big outlier in the dataset because of the inclusion of numerous Ultra Beasts that are incredibly specialized Pokémon with ridiculous stats. For example, Kartana has 181 Attack, and almost nothing in special defence, special attack, and hit points, and Guzzlord has 223 HP. Despite these anomalies, the overall trend from Generations 1 through 9 still supports the notion of increasing stat power over time, consistent with the concept of power creep. If we compare strictly generation 1 average stats and generation 9 average stats, all of the averages have gone up, ranging from 5-13 points.

**Discussion**

This discussion revisits the five key points introduced following the thesis statement, analyzing each in light of the study’s findings.

The initial question explored was whether there is an overall increase in average base stats throughout the generations before and after the filters. Before the filters, there is some power creep, along with some outliers such as Generation 3, 4, and 8. However, overall, when only looking at Generation 1 and Generation 9, there is a clear sign of power creep as the average base stat of a Pokémon increased by roughly 50 points. Generational disparities can be attributed to many factors such as the number of legendaries, ultra beasts, mythical, paradox, and the evolution of older Pokémon. In Generation 9, with the introduction of paradox Pokémon, 25.83% of the Generation 9 Pokedex are either legendary, mythical, or paradox. In Generation 6, there were 72 Pokémon introduced. Therefore, having weaker Pokémon like Fletchling and Bunnelby or stronger Pokémon like Zygarde and Xerneas influences the average massively.

Generation 4 experiences a notable increase in base stat Pokémon because many older Pokémon received new evolutions – Ambipom, Mismagius, Weavile, etc… which will have higher base stat totals than their pre-evolution counterparts. Furthermore, Pokémon Diamond, Pearl, and Platinum rank 3rd in having the most amount of legendaries and mythicals at 14. Generation 4 has its fair share of baby Pokémon too – Mime jr. Mantyke, Happiny, etc… – however, the impact of these weaker Pokémon was offset by the abundance of legendary Pokémon, mythicals, and fully evolved Pokémon.

Generation 2 and 3 are amongst the lowest base stat totals due to the number of baby Pokémon that were introduced in these games, such as Pichu, Cleffa, Igglybuff, etc… and notoriously weak Pokémon such as Sunkern (180), Unown (336), Smeargle (250), Shedinja (236).

Generation 3 in particular has an abundance of early-game Pokémon -- Wurmple line, Lotad line, Ralts line, Ziggzagoon line, Wingull line, and Poochyena line, making this Generation on the lower end of the average base stat totals. This generation also introduced quite a few standalone Pokémon with low base stat totals like Spinda and Luvdisc.

The second key question addressed was whether there is a correlation between average evolution stage and generation. The correlation between the evolution stage and base stat total is 0.398, indicating a moderate positive correlation between the two variables. This holds true because the 2 generations standing out amongst the rest are Generation 4 and 8, which are the 2 highest average base stat totals after filtering Pokémon. Generation 4 has a particularly high evolution stage and average base stat total due to the numerous pre-existing evolutions Pokémon from earlier generations, like Magnezone, Rhyperior, and Togekiss. In the national Pokedex, Pokedex numbers 461-478 are all Pokémon that are evolutions from previous generations. Similarly, Generation 8 includes many strong evolved Pokémon and also introduces new evolutions for older Pokémon thanks to Pokémon Legends: Arceus. Evolutions like Wyrdeer, Kleavor, Ursaluna, and Overqwil enhance the average evolution stage while contributing powerful new statlines to the generation’s total. Unlike Generation 7, where Alolan forms retained the same Pokédex number and shared base stat totals with only minor adjustments, Generation 8’s regional forms were treated as entirely new Pokémon. These forms often featured completely different typing, abilities, stats, and even Pokédex numbers. In Generation 8, Pokémon did not need to have a pre-evolution or an evolution line as they are an extension of a pre-existing evolution line. Some Pokémon within this category include Obstagoon, Perrserker, Cursola, Sirfetch’d, Mr.Rime, and Runeigrus. The other generations stayed relatively in the same ballpark in the 1.6 range, however, generation 7 took a big hit with all of the filters because 29.5% of Pokémon are either Legendary, Mythical, or Ultra beasts in that generation.

The third question explored how to define good and bad typing. The paper determines that a good or bad typing is based on the number of weaknesses, resistances, and immunities on the offensive and defensive end. However, this metric presents a significant limitation. Weaknesses and resistances are not the best way to measure the effectiveness of a type as it categorizes every single Pokémon as one-dimensional. This approach fails to account for the complex interplay between typing, stats, movepool, abilities, and roles within a team. For example, Steel-type Pokémon, Dragon type Pokémon, and Fairy-type Pokémon are among the 3 best typings in the game because of their strong defensive and offensive capabilities, strong specialized movepool, stats, and secondary typing. However, under this metric, Dragon and Steel types both end on the lower end of the list. Furthermore, this paper does not account for dual typing, which significantly alters the type chart for most Pokémon. Dual typing can create unique combinations of resistances, weaknesses, and immunities that can differ drastically from mono-type Pokémon, offering different defensive and offensive advantages.

The fourth question asked is whether the average base power of a Pokémon move is affected by power creep. After analyzing *Figure 6*, there is no correlation between the power of a Pokémon move and power creep. Many of the moves introduced in earlier generations are either “staple” or “common” moves. These include early-game moves like Tackle or Pound, as well as high-powered moves frequently used in late-game or competitive play, such as Fire Blast, Hydro Pump, and Draco Meteor. The widespread use and utility of these general-purpose moves, many of which were introduced in Generations 1 and 2, contribute to a lower overall average base power for both physical and special categories in the early generations. In contrast, later generations tend to introduce more signature, niche, or utility moves. For example, in Generation 9, a total of 64 moves were introduced—87.5% of which were signature moves, designed specifically for individual Pokémon. This shift toward specialized moves in newer generations contributes to the observed trend, where move diversity increases but average base power remains inconsistent. However, signature moves have gotten stronger through each generation. For example, Lugia’s signature move, Aeroblast, has a base power of 100, 95% accurate, single target move with a heightened critical hit ratio—yet it was introduced as early as Generation II. However, when examining recent examples such as Urshifu’s signature move, Surging Strikes and Wicked Blow, and Calyrex’s Glacial Lance or Astral Barrage, it becomes clear that signature moves continue to be strong in the later generations. Surging Strikes has a base power of only 25 per hit, but it strikes three times in a row, and each hit is a guaranteed critical hit. This allows it to bypass defensive boosts and attack drops. Similarly, Glacial Lance and Astral Barrage both have high base power (120) and affect multiple targets, making them exceptionally strong in doubles formats.

Lastly, the fifth question considered was do max and average base stats increase as the Pokémon series progresses. Max base stats do not increase as the generations go forward. The highest stat for each generation is very sporadic, and some of the highest stat Pokémon even come from the earlier generations.

For example, *Blissey*, introduced in Generation 2, holds the highest base HP stat in the series at 255. However, it is balanced by having extremely low Attack, Defense, Speed, and Special Attack. As a result, any physical attack can deal substantial damage to it. In contrast, Regidrago, introduced in Generation 8 with a still-high 200 base HP, has a more well-rounded stat distribution despite having 55 less HP than Blissey. The same can be said for Alomomola, a Generation 5 Pokémon with a base HP of 165—70 points less than Blissey, but with more balanced overall stats. Neither Regidrago nor Alomomola has base stats as low as 10 in any critical category like Attack or Defense, which avoids the extreme vulnerabilities seen in Blissey. Appendix 4 compares the base stat totals of Blissey, Regidrago, and Alomomola to illustrate these differences in stat distribution.

The Pokémon with the highest Defense and Special Defense stats in the series is *Shuckle*, boasting 230 base stats in both. However, this extreme tankiness is counterbalanced by some of the lowest stats in the game: 20 HP, 10 Attack, 10 Special Attack, and 5 Speed. These limitations severely restrict Shuckle’s viability in most formats. In comparison, Pecharunt, a Generation 9 Pokémon with 160 base Defense, has a much more balanced spread—88 base stats in every other category, making it significantly more viable in competitive play.

Pokémon with the highest individual stats in earlier generations, such as Shuckle and Blissey, tend to suffer from extreme stat specialization. While they hold record-breaking defenses or HP, they also hold some of the lowest stats in the game. Notably, Blissey’s Attack stat is even lower than *Magikarp*, a Pokémon often considered one of the weakest in the series.

However, when looking at the average base stat across the generations, it indicates that there is some power creep within Pokémon games. *Figure 13* showcases that there are a few noticeable trends in average hit points per generation and average speed per generation. However, when looking at just generation 1 and generation 9, there is a clear indication that there has been some power creep, not just amongst legendary Pokémon, but to the regular Pokémon as well.

**Conclusion**

This analysis reveals that there is a clear trend of power creep within Pokémon, which is evident when comparing earlier generations to more recent generations. However, while individual statistics like maximum base stats remain inconsistent across generations, with older Pokémon such as Blissey and Shuckle still holding the records, the overall average base stat total has steadily increased. This rise can be influenced by factors such as the growing number of Legendary, Mythical, and Paradox Pokémon, as well as the continued addition of evolutions for older species. Furthermore, Generation 4 and 8 stand out for a higher average evolution stage per generation, thanks to the integration of strong, fully evolved Pokémon and new regional forms evolved from Pokémon in previous generations.

Although move base power shows no clear upward trend, the design of moves has evolved, with a focus on signature and utility-based moves in later generations and staple moves within the Pokémon franchise in earlier generations. The method used to evaluate typing effectiveness in this study highlights some limitations, notably its inability to capture the nuanced dynamics of dual typing, abilities, and movepools, which are essential factors in determining a Pokémon’s effectiveness.

Despite over 25 years of development, the Pokémon franchise has not avoided the effects of power creep we typically see in other games. This gradual increase in average base stats and the introduction of stronger, more versatile Pokémon reflect the rapidly evolving competitive landscape. As the series continues to grow, balancing new additions with old Pokémon remains a key challenge for maintaining fairness and flexibility in gameplay.

**Appendices**

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| Appendix 1: Zacian-crowned Stats |

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| Appendix 2: Espathra’s stats |

| Appendix 3:   1. These moves are very strong "one time moves" or "you can use for 3 turns" (Z-Moves & Dynamax + Gigantamax moves) and will skew the results 2. Moves that are calculated based off "something", because the base power (or fixed damage) is variable 3. Some moves are not useable ingame (like eternabeam, light of ruin) 4. Fixed damage does not equal base power 5. Status moves were excluded   Damaging moves that were excluded:   * z-moves, dynamax moves, eternabeam,return,frustration,gyro ball,wring out, counter crush grip, electro ball, OHKO moves (One Hit KO) [fissure, horn drill, sheer cold,guillotine],sonic boom, low kick,seismic toss,dragon rage, fissure, night shade, bide, psywave,super-fang, flail,reversal,present,magnitude,mirror-coat, beat-up,spit-up,endeavor,natural-gift,metal burst, fling, trump card,punishment, grass knot,heavy slam, final gambit, heat crash, pika papow, veevee-volly |
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| Appendix 4:  Blissey stats: |
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| Alolmamola stats: |
| Regidrago stats: |

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| Appendix 5: showcases the number of Pokémon for each typing per generation |

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