

A Large-Scale, Longitudinal Study of User Profiles in World of Warcraft

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enable ($\vee t$) : *to make possible, practical, or easy*



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- What principles can we carry over from game design to apply it to non-game contexts?
- Why not look to real games?

Game Studies

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- Qualitative Research:
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 - Personalities, demographics, etc

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 - Personalities, demographics, etc
- Quantitative Research:
 - 10,000's-100,000's of samples [Duchenaud; Lewis]
 - In-game demographics, etc



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- Reputation

Wizlok of the Nightfall

Diligence

85 Blood Elf Frost Mage, Mal'Ganis

3790

Character Summary

Auctions

Events

Achievements

Pets & Mounts

Professions

Reputation

PvP

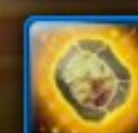
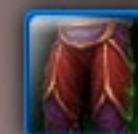
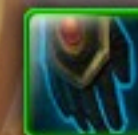
Activity Feed

Guild

Challenge Mode

Simple Advanced

375 average item level
(375 equipped)



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Besting the Black Dragonflight (10 player)

Defeat Sartharion the Onyx Guardian in 10-player mode.

10

07/09/2012

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Showing 1-13 of 13 results



Black War Mammoth



Bronze Drake Mount



Dark Phoenix



Kor'kron Annihilator



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Alchemy

Zen Master

600 / 600

Learned (170)

Not Yet Learned (157)

Filter...

Showing 1-50 of 170 results

1 2 3 4

Name	Level	Reagents	Source	Skill
Transmute: Wild Jade	90			600
Transmute: Vermillion Onyx	90			600



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– Cataclysm

Avengers of Hyjal	0/3000	Neutral
Dragonmaw Clan	1650/3000	Neutral
Guardians of Hyjal	9780/21000	Revered
Hellscream's Reach	0/3000	Neutral
Ramkahen	3984/12000	Honored
The Earthen Ring	4680/6000	Friendly
Therazane	0/36000	Hated



Player vs. Player

Conquest Point Calculator

Rated Battlegrounds

0 Rating

2v2

3v3

5v5

Name	Bracket	Games	Win - Loss
Arathi Basin	10v10	0	0 - 0 (0%)
Eye of the Storm	10v10	0	0 - 0 (0%)
Silvershard Mines	10v10	0	0 - 0 (0%)

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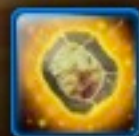
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Methodology

Accessing the Data

- Blizzard's API allows you to retrieve this per-character
- No option to list all characters
- How do we discover the characters?

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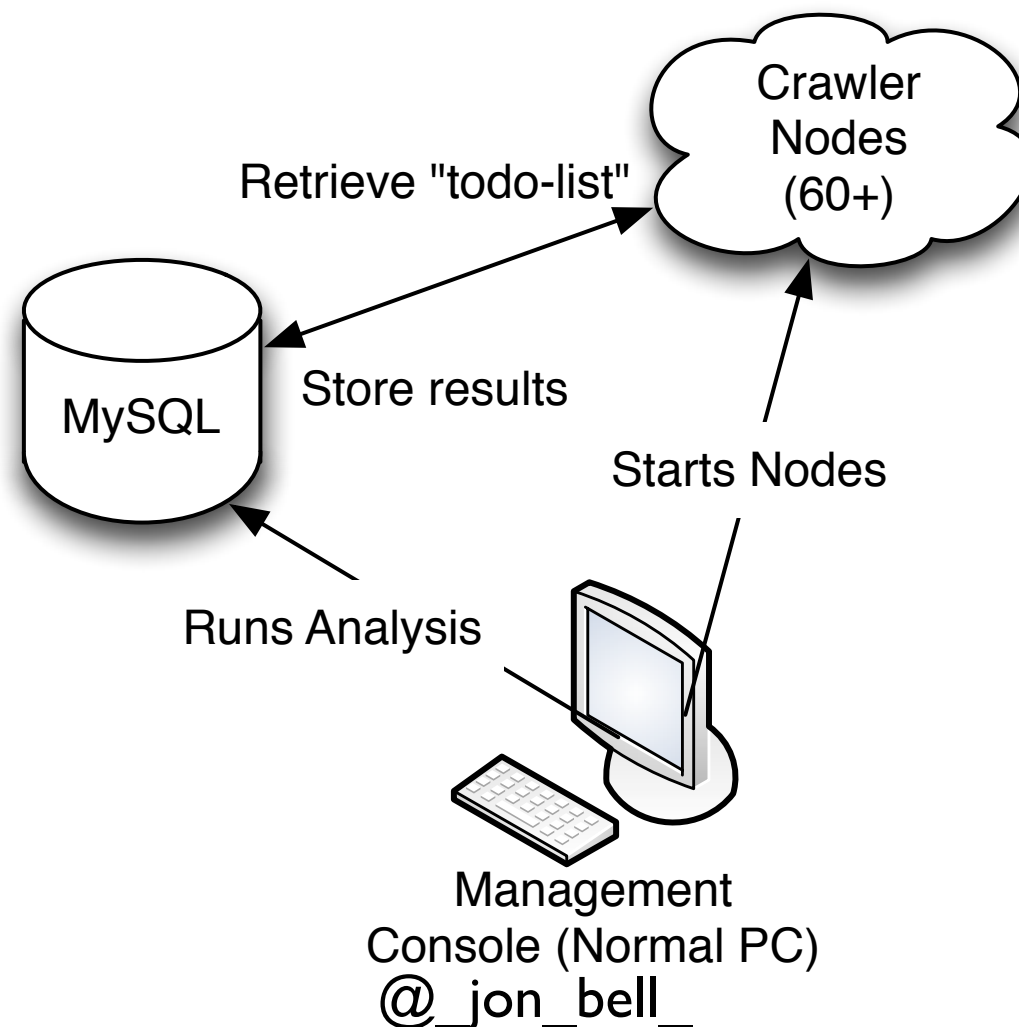
- Blizzard *does* list characters by guild
- Several popular websites have listings of guilds and characters [e.g. WarcraftRealms]
- Solution: Find all guilds belonging to these characters. And find all members of all identified guilds

Fetching the Data

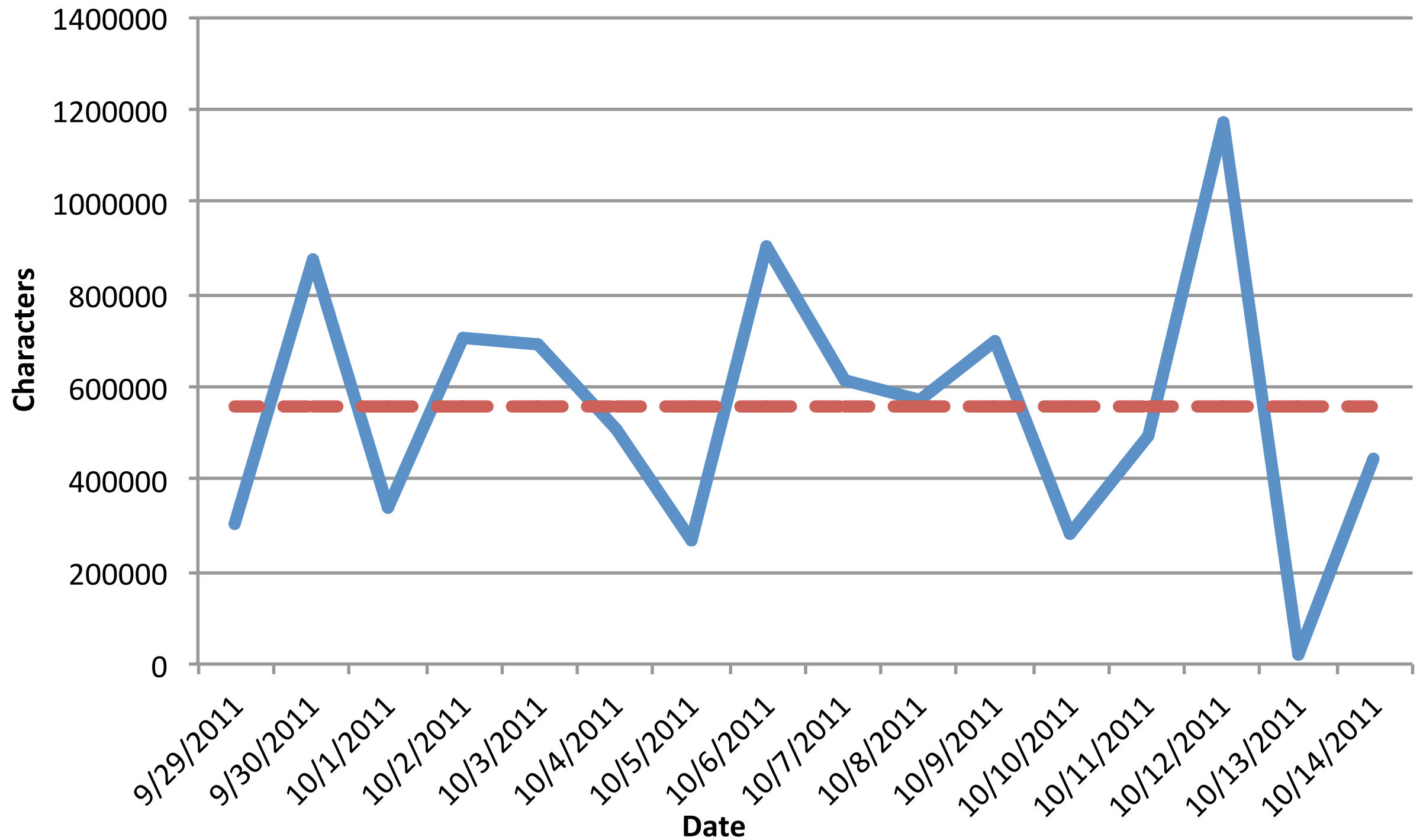
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- Solution: use a cluster of 60+ IPs to crawl the API

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Crawler Performance



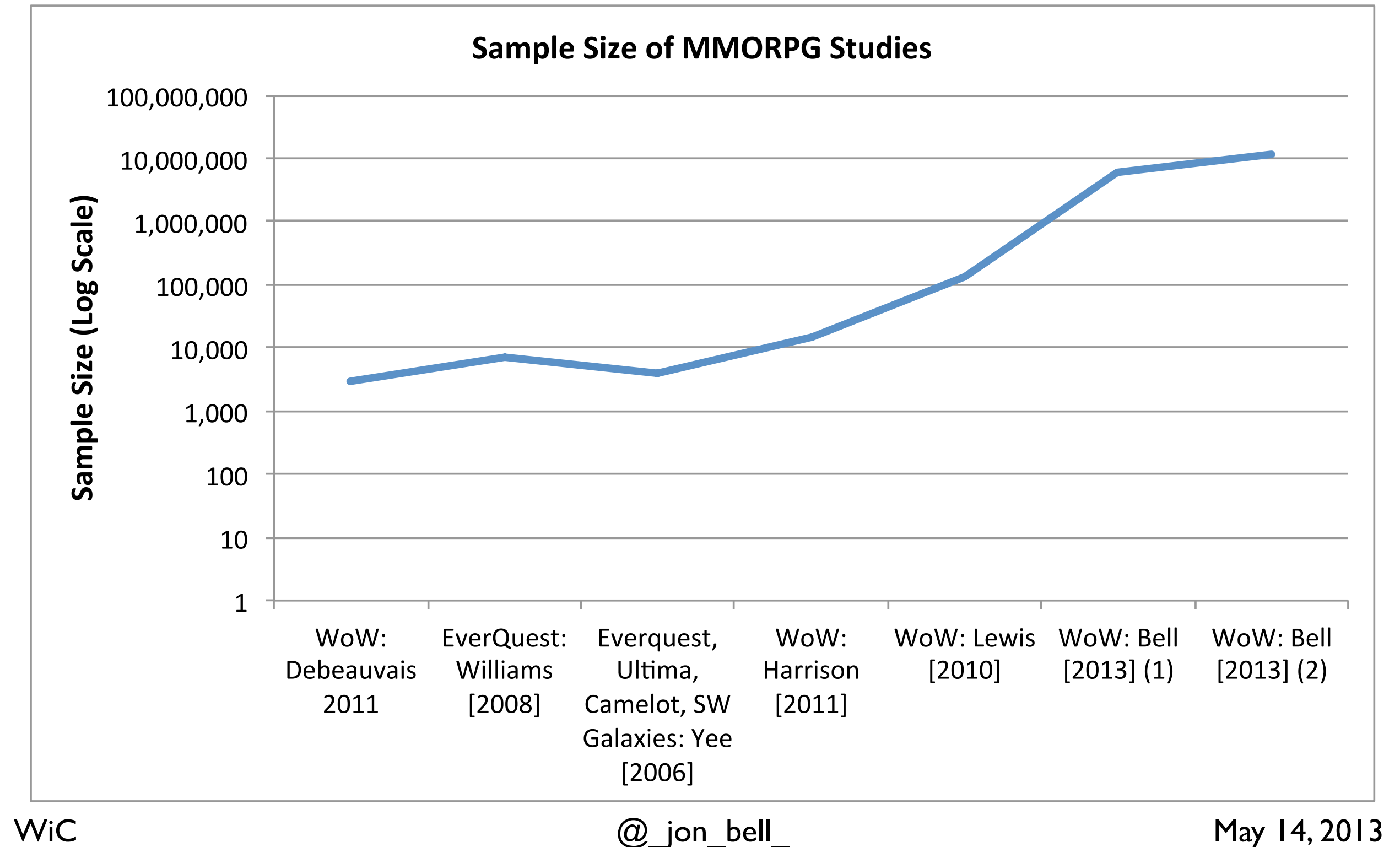
Raw Data

- Found approximately 12 million characters with *basic* information
- Complete data for half of these

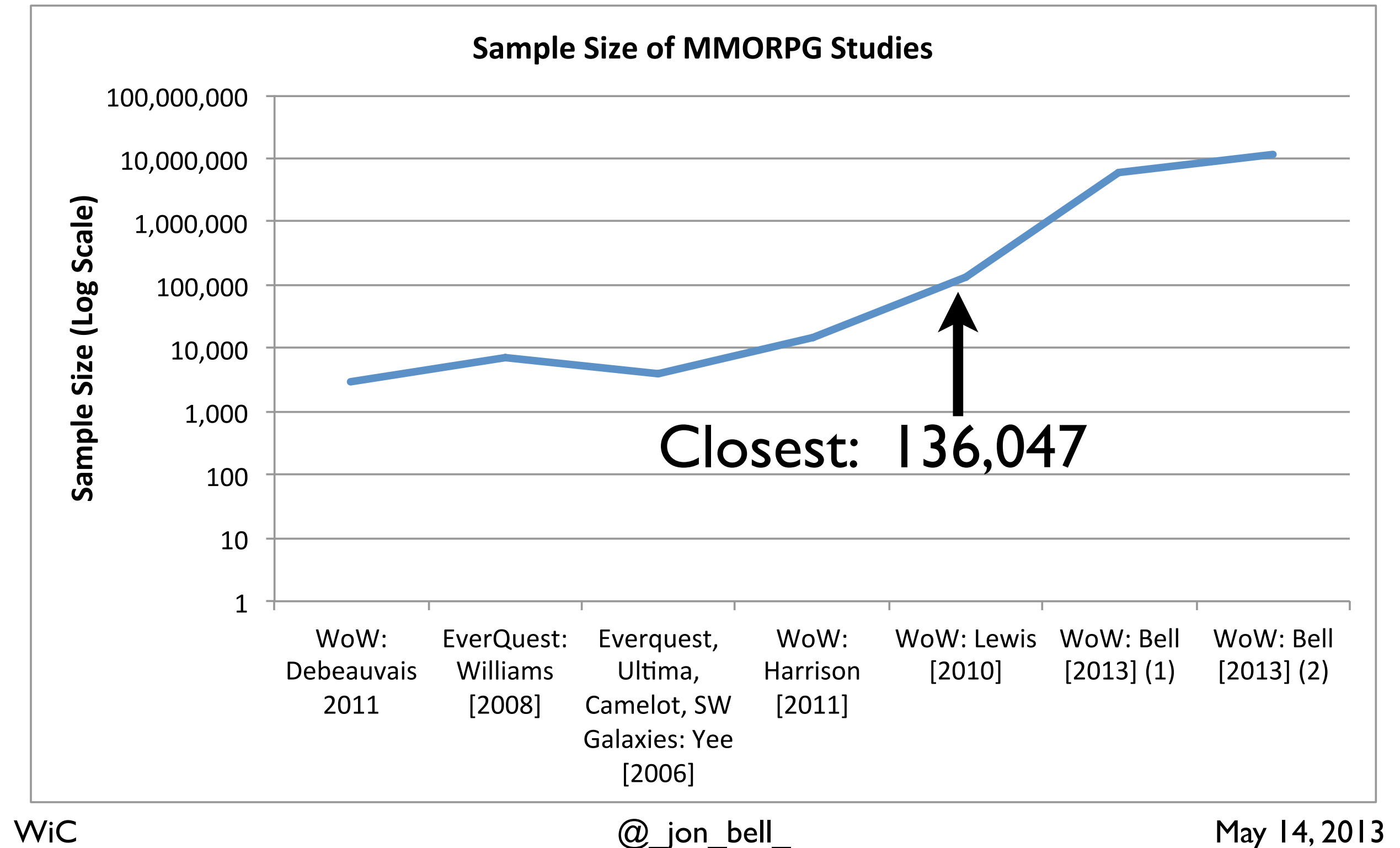


Basic information

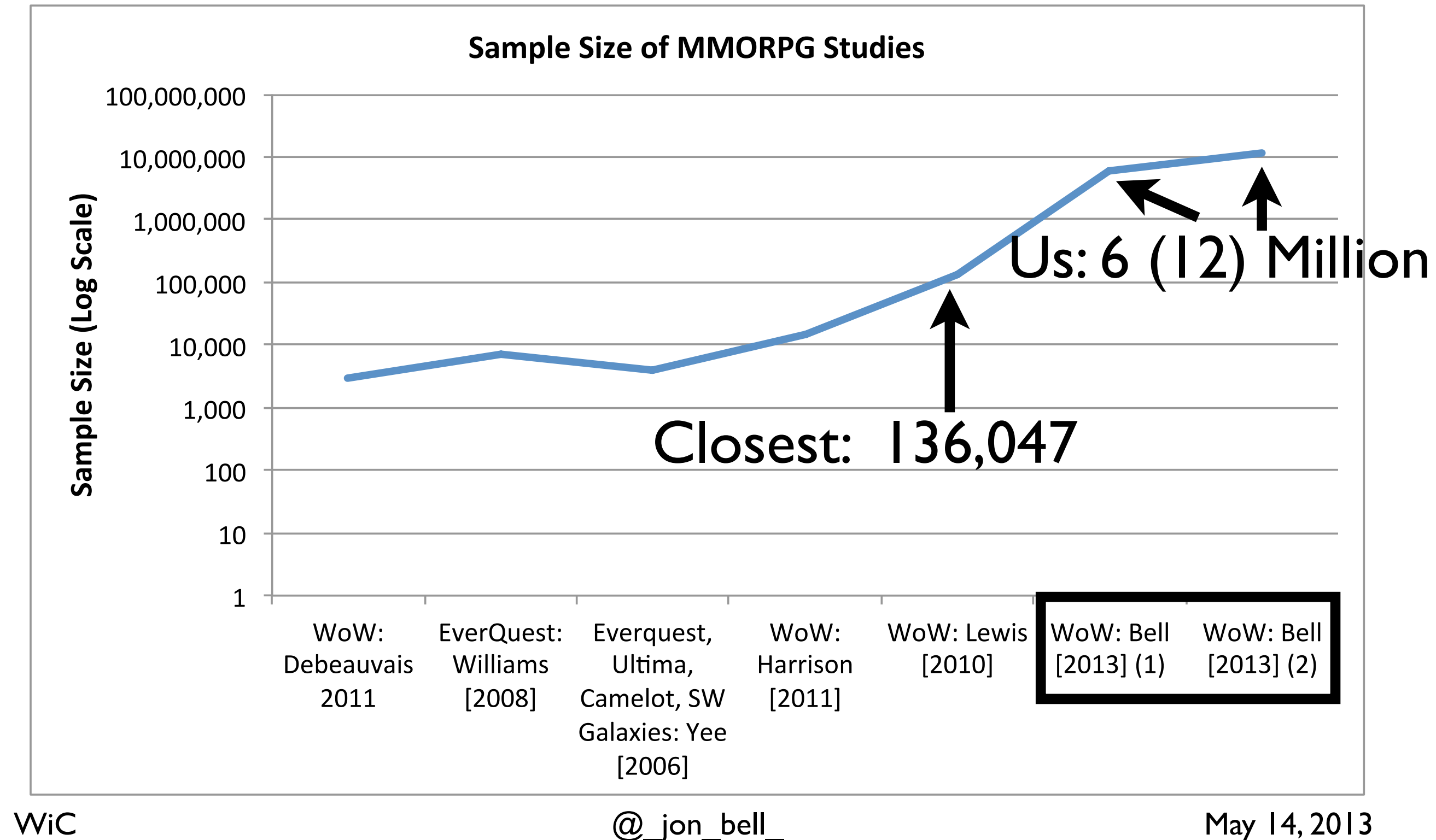
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2. Do characters' play profile evolve as they level?
3. Do characters with different play profiles play through the game content at different rates?

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- Profile players based on the types of achievements they complete

Categorizing Achievements

- Draw on motivation categorizations described by Yee

Achievement	Social	Immersion
Advancement	Socializing	Discovery
Mechanics	Relationship	Role-Playing
Competition	Teamwork	Customization
		Escapism

Categorization of play motivations, Yee

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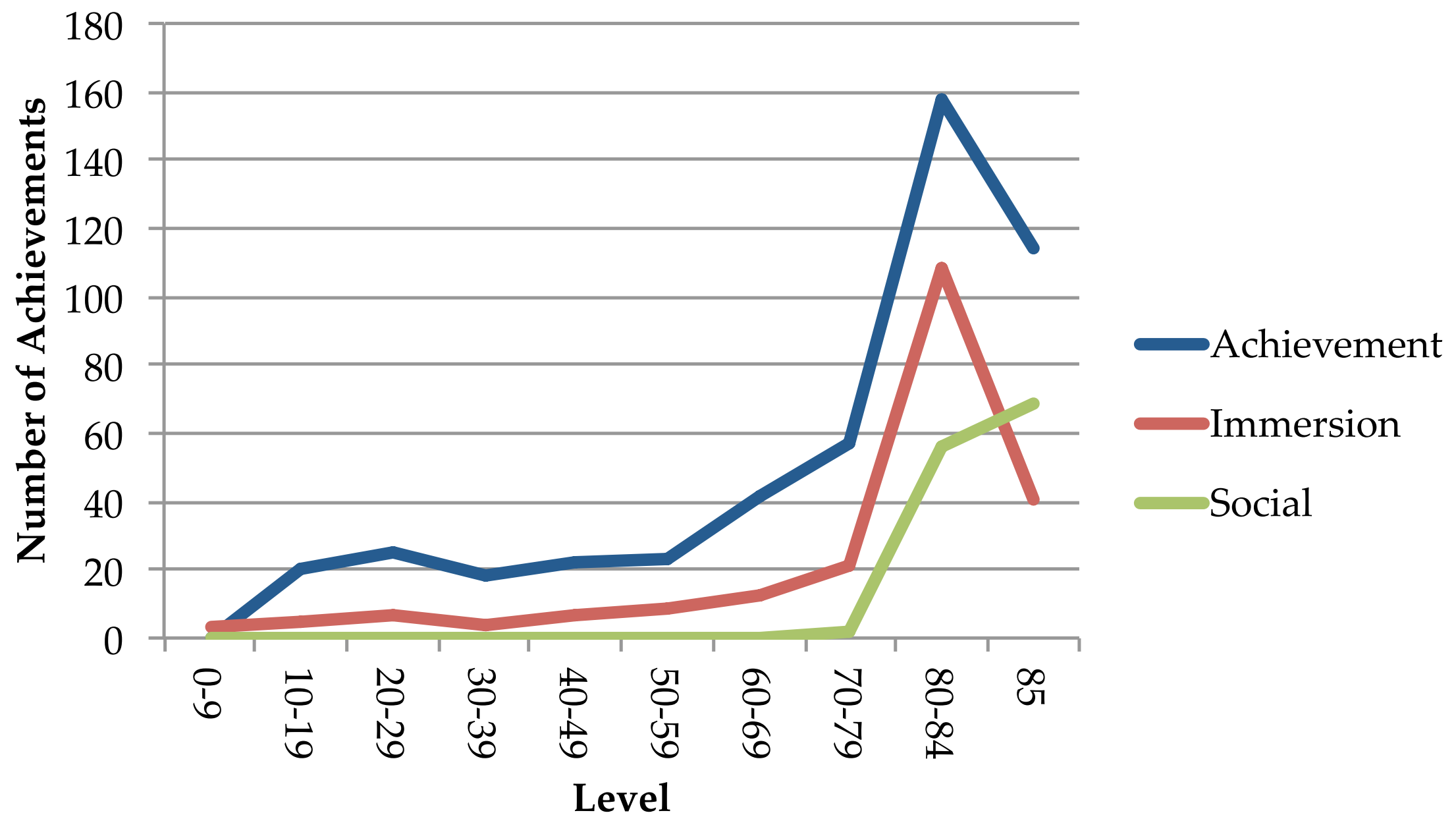
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 - *Allow all three of Corla's zealots to evolve, then defeat Corla after slaying the evolved zealots in Blackrock Caverns on Heroic Difficulty -> **All three***

Four Distinct Player Profiles

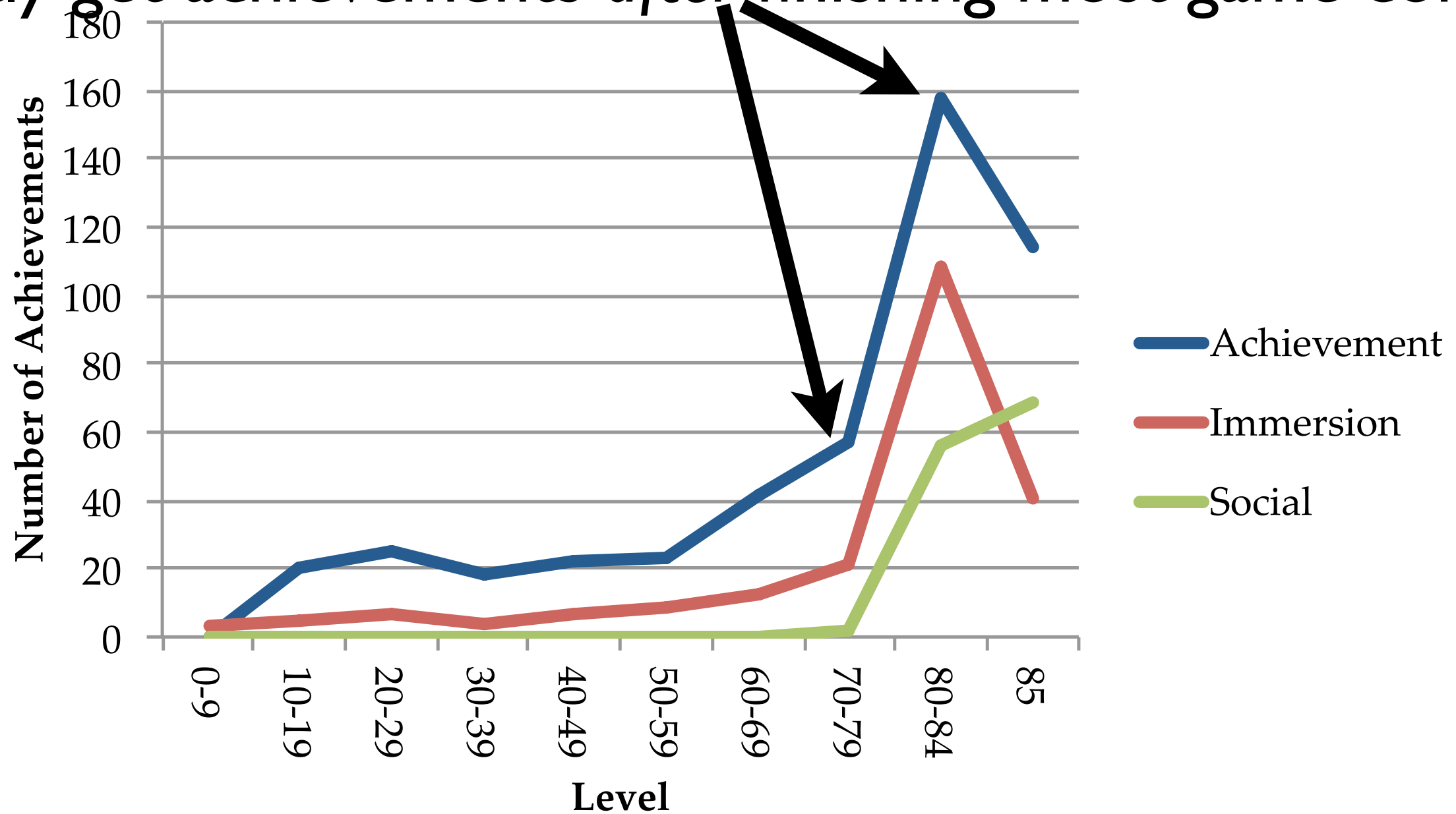
	Generalists	Achievement	Loners	Socialists
Size (Millions of players)	1.6	1.4	1	1
Social	12% \pm 6	7% \pm 8	1% \pm 3	28% \pm 6
Immersion	38% \pm 6	20% \pm 7	38% \pm 29	31% \pm 5
Achievement	66% \pm 4	87% \pm 6	35% \pm 24	61% \pm 4

RQ2: Achievements per level

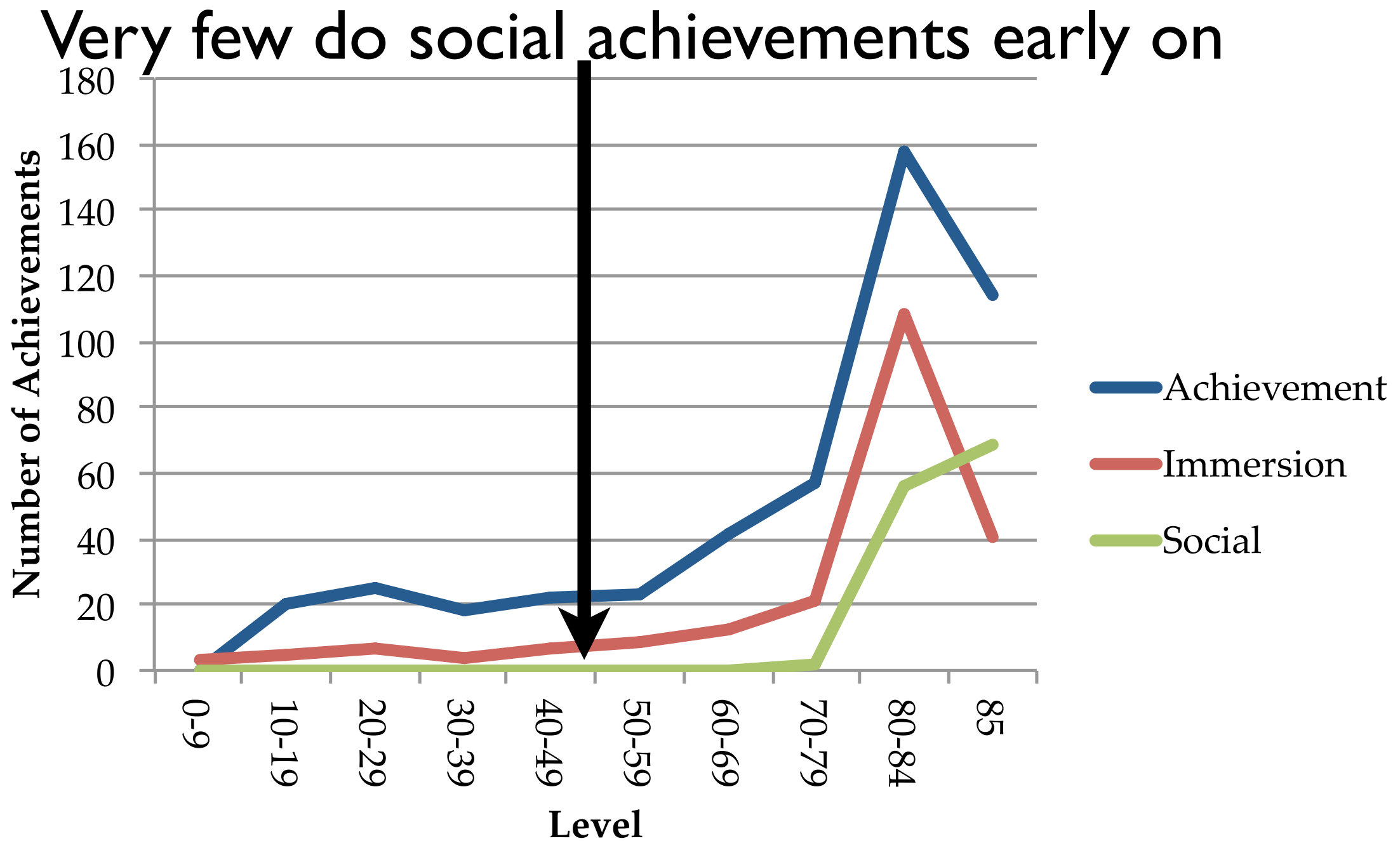


RQ2: Achievements per level

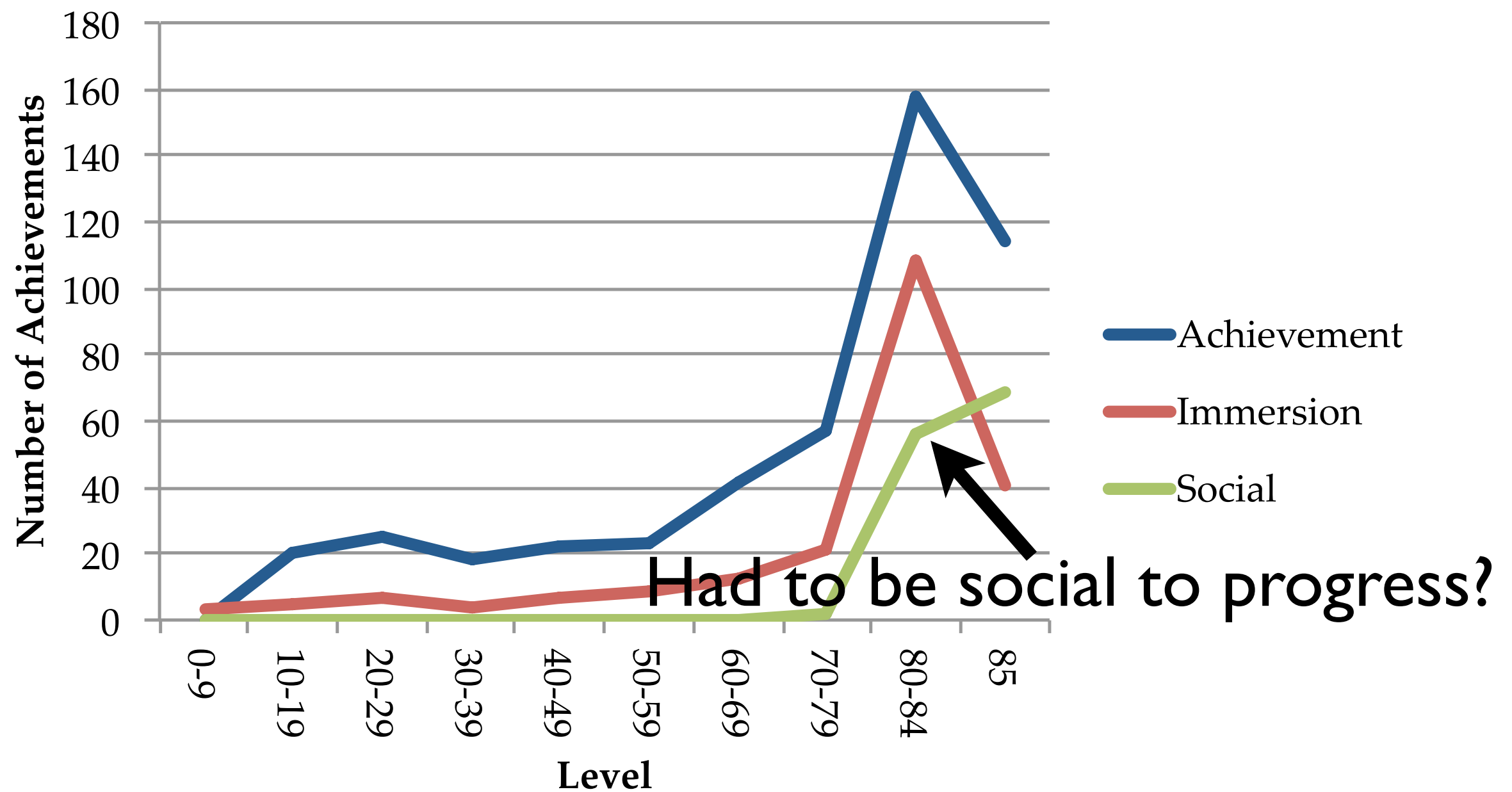
Mostly get achievements *after* finishing most game content



RQ2: Achievements per level



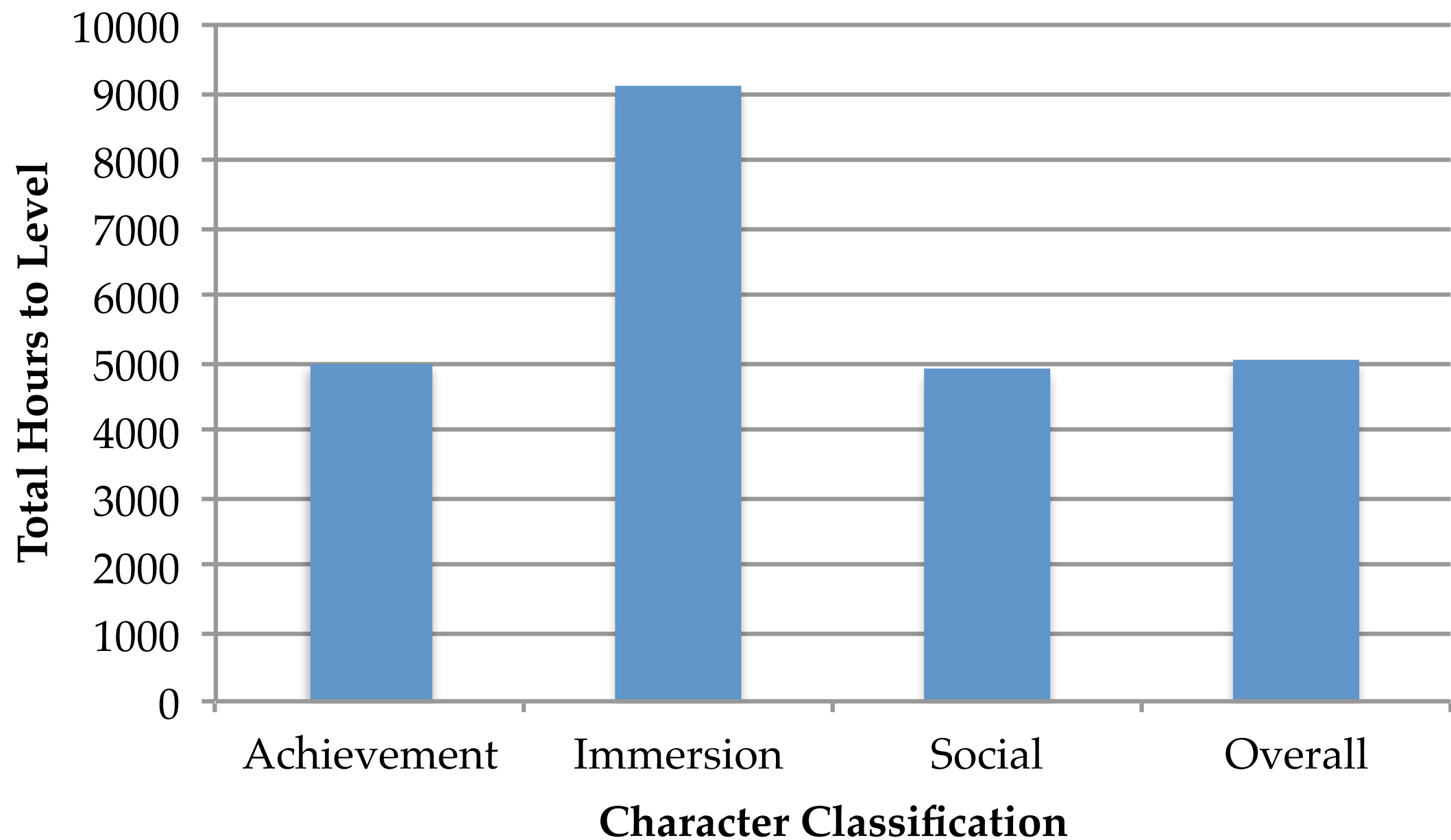
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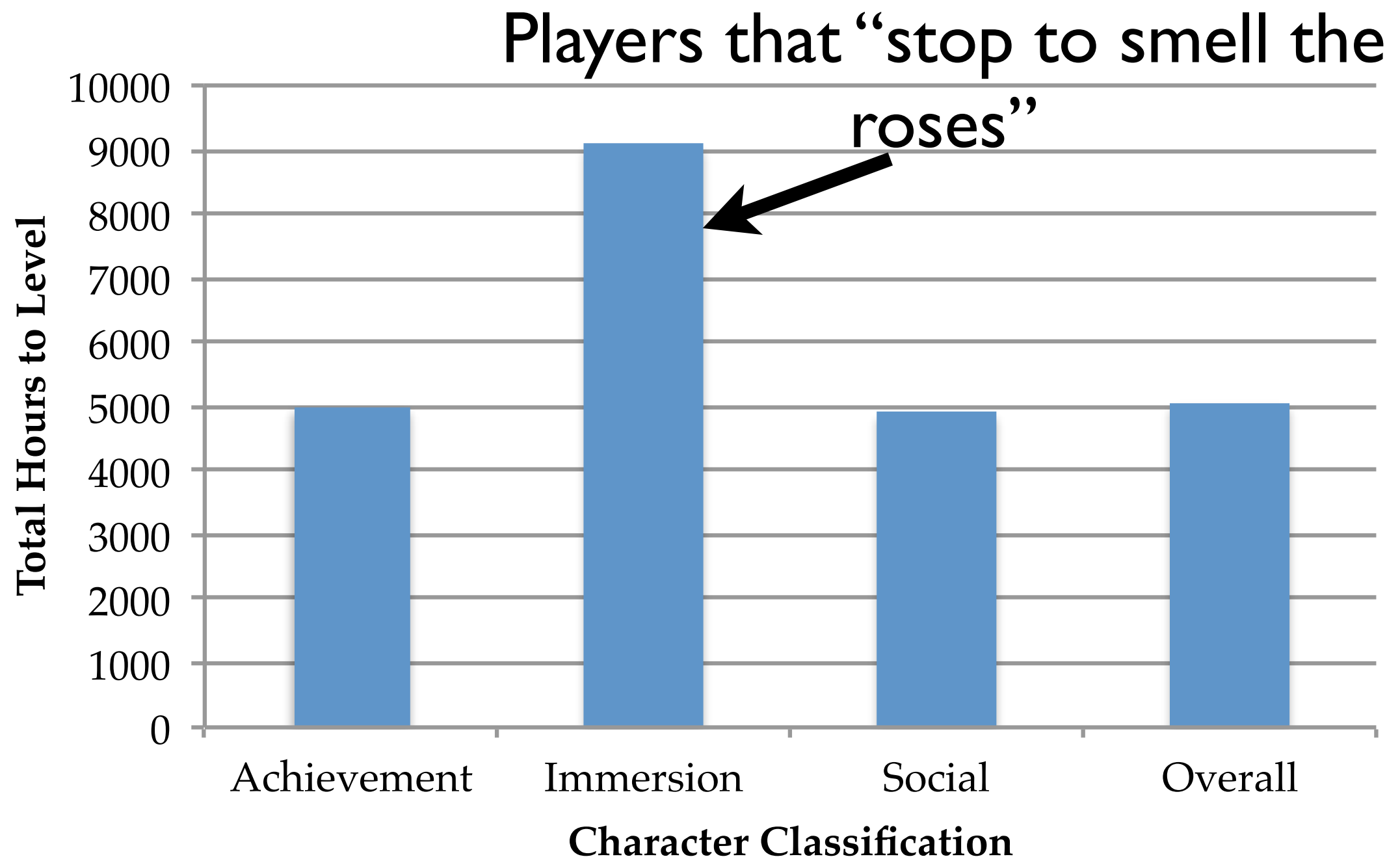
RQ3: Leveling by Primary Motivation

- “Primary” motivation - whatever the player did most
- Look purely at time to reach level 85 (maximum level)

RQ3: Leveling by Primary Motivation



RQ3: Leveling by Primary Motivation

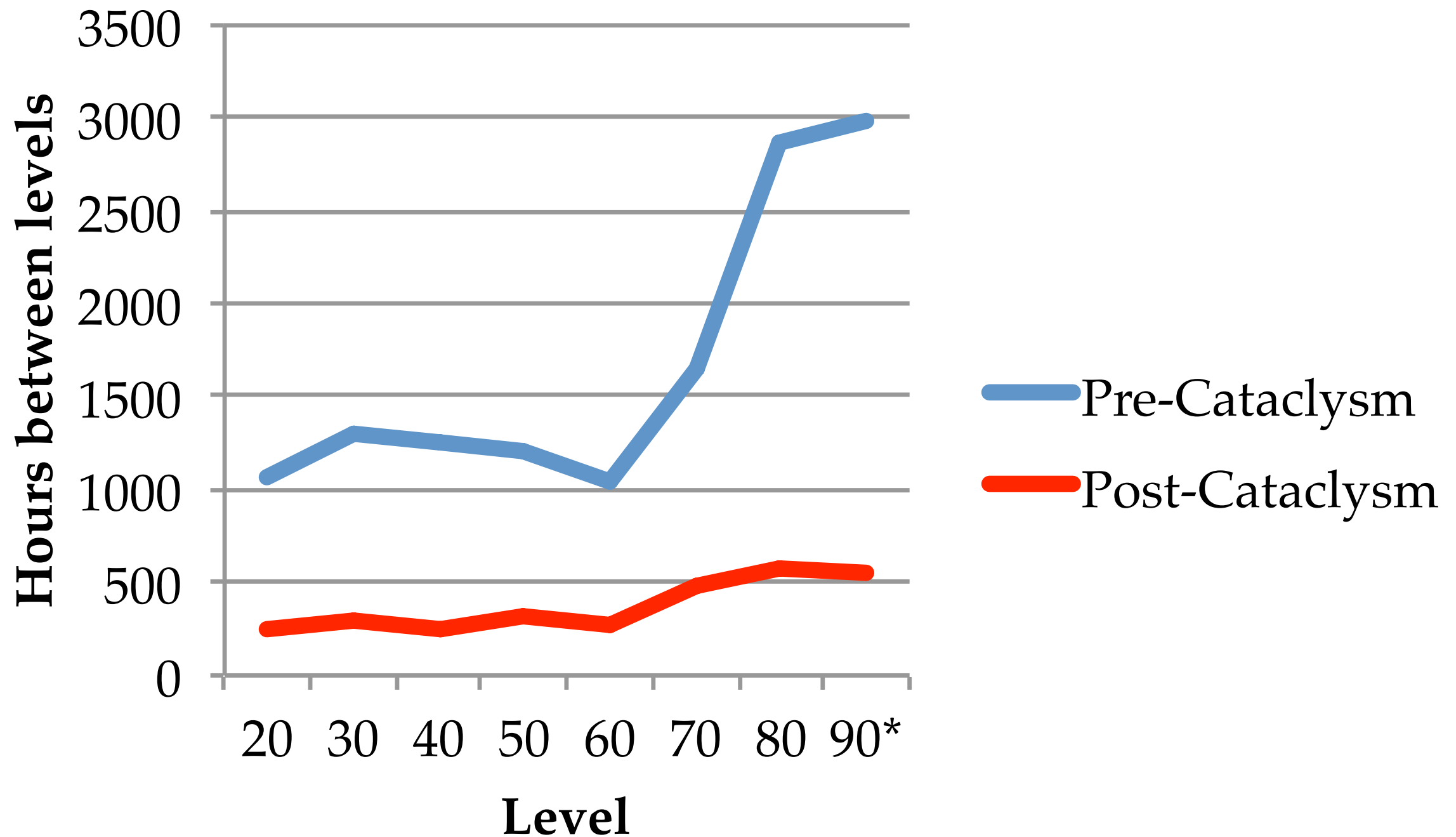


**Bonus RQ: Has Blizzard
made the game easier?**

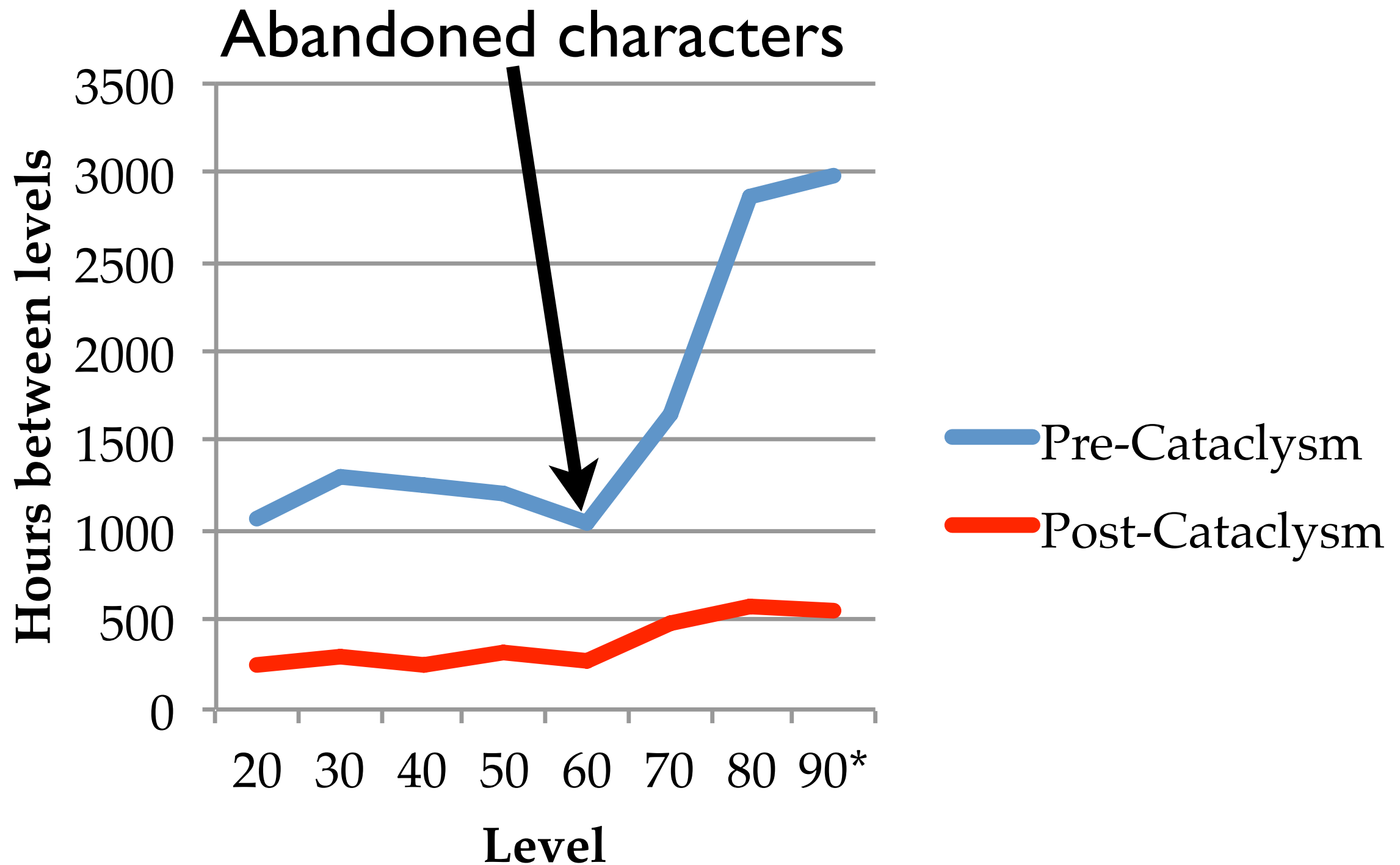
Studying Game Difficulty

- Modeled based on how long it takes to level
- Measured in *real-world time*
- Compare time-to-level from before Nov 2011 to post Nov 2011

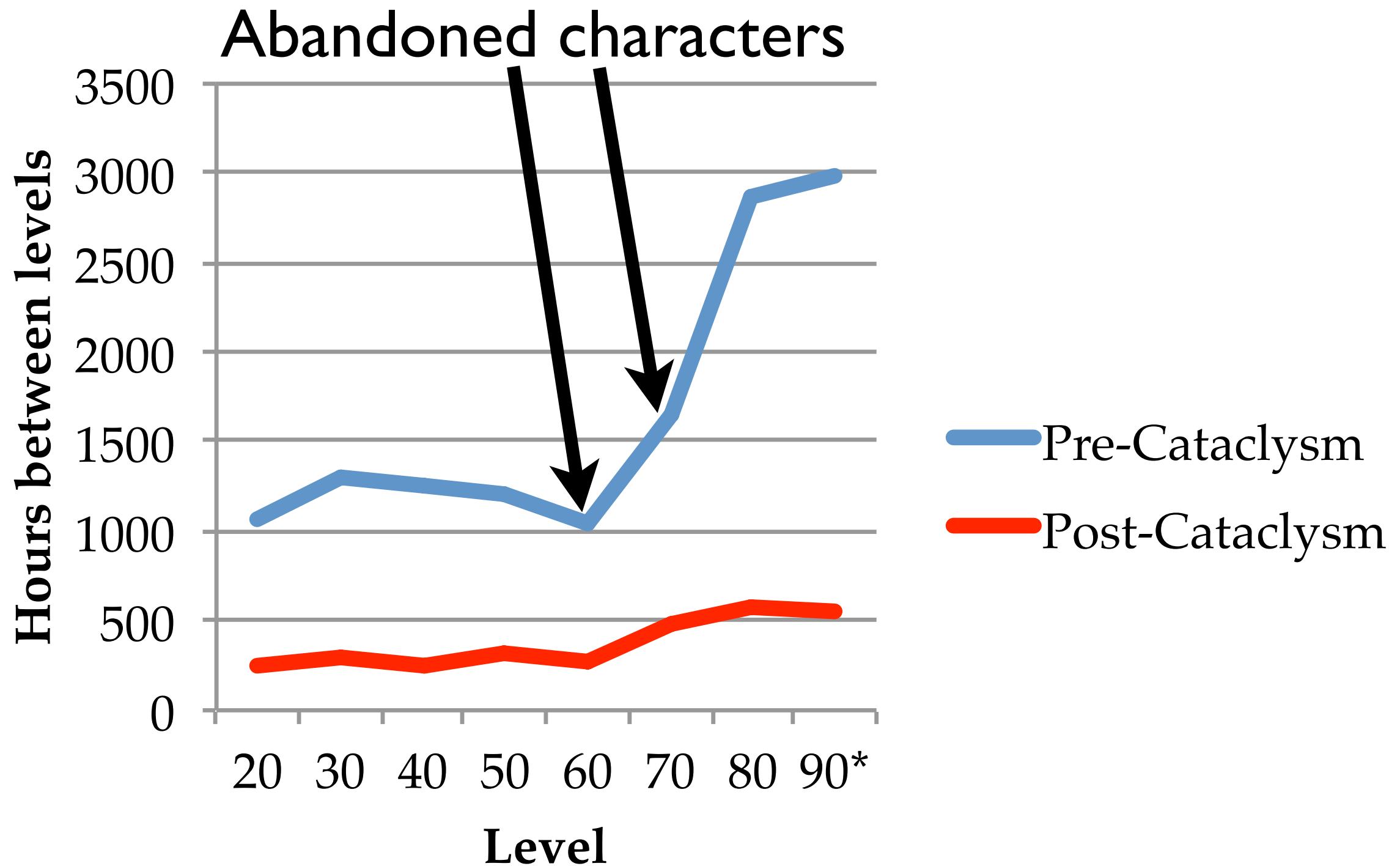
Leveling by Start Date



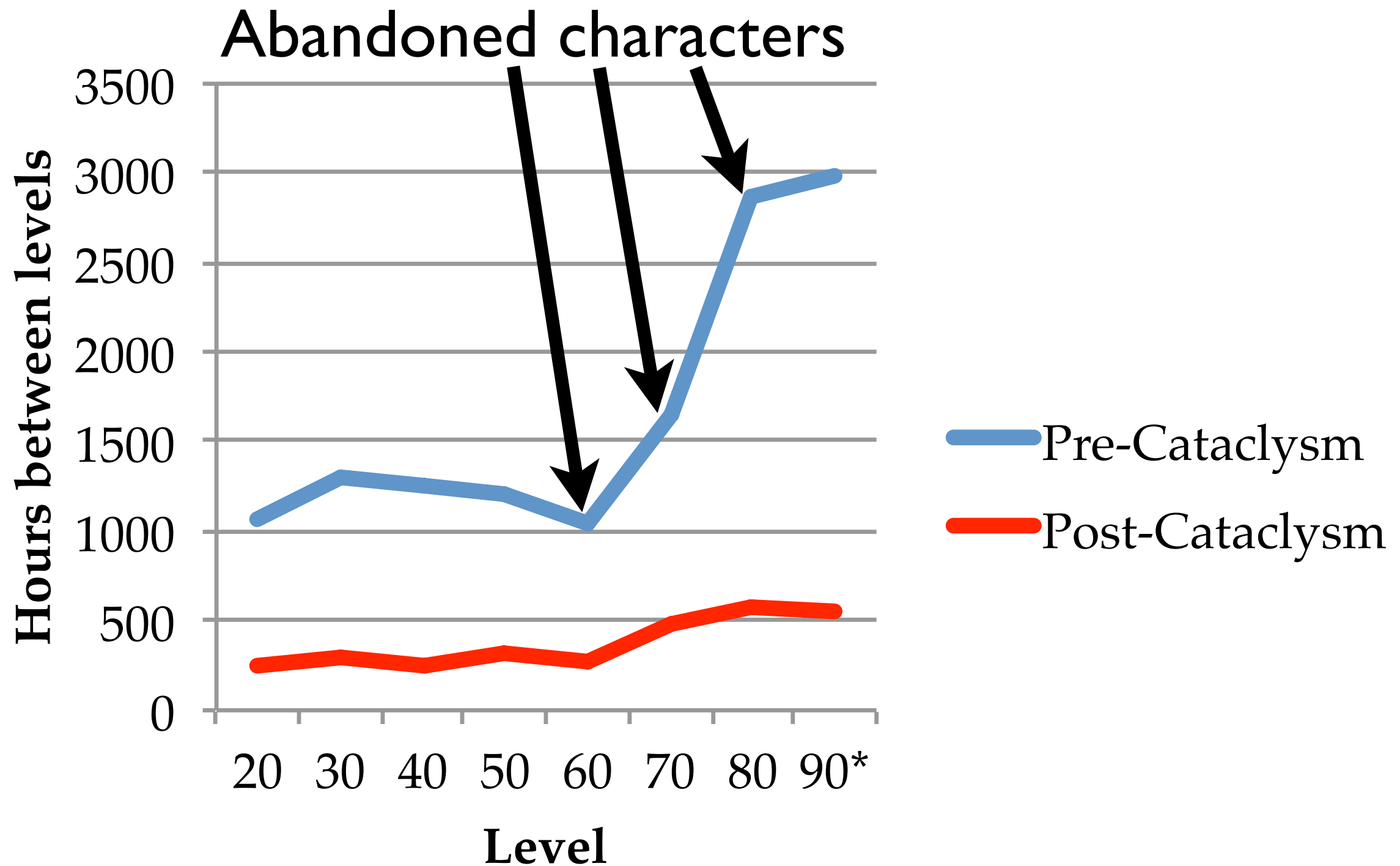
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**And there's so much
more.**

What's the most popular character name?

Name	Count (Normalized)
Shadow	922
Nightmare	839
Nemesis	831
Loki	772
Hades	722
Pandora	707
Lilith	672
Lucian	660
Wolverine	657
Holycow	656
Luna	644
Kratos	642

WoW: Social Data

- Guild
- Achievements (surprise!)
 - Co-completions of group achievements
- Huge network of players
 - Over 100 million edges

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