



FIGURE 1. WoW 20th anniversary official art.

US\$50 to US\$90 expansion packs, and US\$10 to US\$60 microtransactions in the form of paid character services and cosmetic items.^{8,9} In sourcing *WoW* as a case study, deconstructing how player commitment has persisted for two decades stands out as an opportunity to model return on investment over time for its market segment. The role-playing game (RPG) market projections for total revenue are expected to show an annual growth rate (compound annual growth rate 2022—2029) of 7.70%, resulting in a projected market volume of US US\$73.46 billion by 2029.¹⁰

WOW PLAYER EFFICACY

This three-part article series analyzes the relationship between player self-efficacy and commitment to *WoW*, with a focus on how players' sense of competence in the game affects their

gameplay behavior and retention. Self-efficacy is described as how someone perceives their capability of completing a task.¹¹ Most relevantly, an individual's self-efficacy affects their expectations as well as their choice of tasks that they pursue.¹² In particular, people avoid tasks that they do not think they can handle and pursue tasks that they think they can manage.¹² And specific to commitment over time, a person's self-efficacy also determines the level of effort and persistence they are willing to put into a task they perceive as difficult.¹²

COMMENTS?

If you have comments about this article, or topics or references I should have cited or you want to rant back to me on why what I say is nonsense, I want to hear. Every time we finish one of these columns, and it goes to print, what I'm going to do is get it up online and maybe point to it at my Facebook (mikezyda) and my LinkedIn (mikezyda) pages so that I can receive comments from you. Maybe we'll react to some of those comments in future columns or online to enlighten you in real time! This is the "Games" column. You have a wonderful day.

Part one of this games user research (GUR) study measures players' *WoW* self-efficacy and number of years played. An online survey was distributed to past and present *WoW* players via two major platforms: the *r/wow* subreddit (2.2 million members) and the *WoW* Discord server (90,000 members), with permission from the



FIGURE 2. Blizzard Entertainment Studios in Orange County, California.

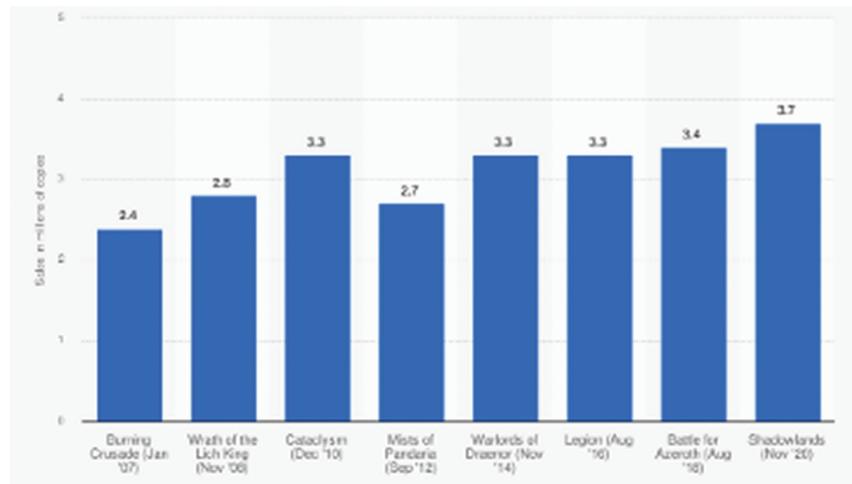


FIGURE 3. Number of copies of *WoW* expansion packs sold on the first day worldwide from 2007 to 2020 (in millions), Activision Blizzard, 20 December 2020. [Online]. Available: <https://www.statista.com/statistics/370010/world-of-warcraft-expansion-pack-sales/>

respective moderators. As Tables 1 and 2 show, a total of 2,351 participants completed the survey, providing a sample size with a 99% confidence interval and 0.228 margin of error. The survey items were reliable, with a Cronbach's alpha of 0.86 (Table 3).

Since self-efficacy is domain specific, meaning that a person's beliefs in their abilities can vary depending on the context,¹¹ the self-efficacy measure was operationalized to reflect WoW contexts. The numeric data collected was transformed into two categories based on the sample's mean self-efficacy score (Table 2). Participant self-efficacy groups were distributed as low (scores between 8 and 32) and high (scores above 32), as shown in Table 4. A one-way analysis of variance (ANOVA) analysis (Table 5) shows that there is a very significant relationship between self-efficacy and years played ($p = 0.004$). In this sample, the mean number of years playing WoW differs significantly among the levels of player self-efficacy. Analysis

TABLE 1. Demographics.

Variable	N	%
Gender		
Man	1,893	80.5%
Woman	389	16.5%
Non-binary	25	1.1%
Other	13	0.6%
Prefer not to answer	31	1.3%
Age		
18–19 years	70	3.0%
20–29 years	1,354	57.6%
30–39 years	732	31.1%
40–49 years	150	6.4%
50–59 years	35	1.5%
60–69 years	6	0.3%
70–79	2	<0.1%
80+	2	<0.1%

TABLE 2. Summary table.

Variable	Obs	Mean	Std. dev.	Min	Max
Number of years played	2,351	11.8	4.7	<1	>17
Self-efficacy	2,351	31.3	4.3	8	40

confirms that the group in the high self-efficacy group has more time (an average of 12.115 years) playing WoW (Table 6). In other words, WoW players with higher confidence in their abilities are more likely to invest in playtime. More broadly, this suggests that higher self-efficacy is associated with longer player commitment.

Why is self-efficacy so manifest to a player's commitment to WoW?

Some of the answers lie in the game itself. WoW is a massive multiplayer

online role-playing game (MMORPG). MMORPGs are a subgenre of role-playing games where the player typically creates a customizable avatar that can explore a vast persistent state that evolves, even when not interacting with the game.¹³ A key

TABLE 3. Scale reliability.

Sub-scale	Number of items	Cronbach's alpha
Self-efficacy	8	0.86

TABLE 4. Frequency table.

# Years played	Low self-efficacy	High self-efficacy	Total
<1	22	8	30
1	24	20	44.0
2	42	32	74
3	55	34	89
4	51	32	83
5	46	56	102
6	57	46	103
7	48	56	104
8	57	58	115
9	25	20	45
10	118	100	218
11	43	42	85
12	87	78	165
13	99	90	189
14	99	119	218
15	145	149	294
16	110	98	208
17+	84	101	185
Total	1,212	1,139	2,351

feature of MMORPGs is that they typically exist around large communities of hundreds to millions of players, allowing the players to interact with each other in different ways.¹³ Because of this, MMORPG new game

players are motivated to persistently choose its live services. Moreover, this indicates that specific self-efficacy plays a substantial role in fostering long-term consumer commitment within that context. And ultimately,

expect future tasks to be easy and feel discouraged when the tasks do not live up to that expectation.¹¹ Thus, it is learning to manage task failures that motivates persistence in the chosen tasks.¹¹ And this is why individuals feel more competent at something and gain self-efficacy when they can complete a mastery-related task.¹²

Playing a modern videogame teaches the player how to succeed through a learning progression, building blocks to leveled skills mastery.

states rely on having a strong community of dedicated players to weave the world state.

In surveying WoW players, self-efficacy is understood as a state.¹⁴ And in distinguishing it this way, specific self-efficacy (self-efficacy related to a defined context, for example, playing WoW), is expressed as a motivational state that is less resistant to short-term changes.¹⁴ Thus, the longevity in WoW's player base could in fact be tied to WoW's specific self-efficacy context—updates to the game are continuous short-term state changes that are able to regularly influence the perceptions of its players. In this case, the continuous state of accumulation of self-efficacy is attributed to how WoW

this can be generalized to players that perceive themselves as competent are likely to invest greater playtime.

WOW MASTERY EXPERIENCES

How did Blizzard designers generate WoW player self-efficacy in the first place?

In the deconstruction, a direct relationship to how individuals can acquire self-efficacy is found through "mastery experiences," which provide enough of a contest to develop resiliency such that they believe in their ability to complete further tasks.¹² This is relevant because people who complete tasks without challenge

A balanced mastery experience in a videogame is easy to outline but complicated to implement broadly for all player types. Since a player's perceived self-efficacy affects the effort that they put in to complete a task,¹² it is important for player retention to ensure that critical path tasks in a game can be achieved. Playing a modern videogame teaches the player how to succeed through a learning progression, building blocks to leveled skills mastery. With any game system's design, basic skills are introduced first and combinatory skills are added when the player is ready to take on the next challenge level, leaving the most advanced challenges until the end. However, if the game state is continuously evolving and requires a large player base, it is necessary for there to be enough variety in mastery experiences so that players with different playstyles can each build up their skills sufficiently, overcoming challenges that are engaging for their own player type. So, the learning progressions are actually live branching skill trees that require real-time maintenance by the product development team.

Accordingly, to appeal to diverse player types, WoW provides players with a wide breadth of content that affords a collection of different mastery experiences. In WoW's early days this content included player-versus-player battles, player-versus-environment raids and dungeons that required five to 40 players, and content that could be completed by a lone player, like quests and crafting.¹⁵ In recent years, Blizzard has implemented more features for the solo-player, including "Follower Dungeons," "Delves," and "Story Mode" raids, which allow a single

TABLE 5. One-way ANOVA.

Source	Partial SS	Df	MS	F	P-Value
Model	180.725	1	180.725	8.11	0.004
Self-efficacy	180.725	1	180.725	8.11	0.004
Residual	52,328.536	2,349	22,277		
Total	52,509.262	2,350	22,344		

Df: degrees of freedom; MS: mean squares; F: F-statistic ratio of two variances.

TABLE 6. Self-efficacy and number of years played.

Self-efficacy categories	Mean years	Std. dev.	Freq.
Low	11.560	4.834	1,212
High	12.115	4.595	1,139
Total	11.829	4.727	2,351

player to experience content that used to be reserved for groups, with non-player characters at a lower difficulty level.¹⁶ Each of these activities allows tailored patterns of playtime that provide for achievement pathways, develops resiliency with the game-play mechanic skill constraints, and realizes mastery of the chosen *WoW*'s game systems. It is likely that through *WoW*'s success at implementing varied mastery experiences, players who dedicate time to playing and completing preferred tasks feel more competent in those skills and build self-efficacy specific to *WoW*.

As the picture comes together for how *WoW* attracts different player types and activities persistence through mastery experiences, the connections to player retention and commitment also come into focus. The GUR results further suggest that someone who has high self-efficacy in a certain context is likely to have also already completed related mastery tasks in that context. And for *WoW*, the proof is in the pudding. Over the course of 20 years, Blizzard has released ten expansion packs to keep experienced players engaged with new content, explicitly leveraging their past mastery experiences.¹⁷

Into that bargain, Blizzard released *WoW Classic* servers in 2019 that even allowed players to experience the way the game was before the addition of the expansion packs.¹⁵ Blizzard has continued to support these servers through *WoW*'s third expansion pack, *WoW: Cataclysm*, before opening up even more preexpansion servers again in 2024.^{18,19} Currently, players only need to buy the latest expansion for US\$50 to US\$90, depending on the edition, and subscribe to the game or buy game time to unlock all content available in the game.²⁰ The in-game shop for modern *WoW* includes seven character services: Level 70 Character Boost, Character Transfer, Faction Change, Race Change, Name Change, and the option to buy a *WoW* Token, which can be exchanged for in-game currency.²¹ Players get access to

classic *WoW* servers upon subscribing to the game, meaning players who subscribe to play one edition of the game, will have access to the other as part of their subscription.²² The classic *WoW* in-game store (Figure 4) includes the same character services as modern *WoW*, with the Character Boost being to level 80, to get the players caught up on the highest level of content.²² As of 2024, the modern *WoW* store (Figure 5) offers nine cosmetic gear options, four toys, 17 pets, 26 mounts, and several bundles.²¹ *Classic WoW*'s store offers one cosmetic gear option, five toys,

five pets, and three mounts.²² On the whole, *WoW* player expectations still continue to be regularly reset well into its second decade of live services. In this way, Blizzard's continual stream of skill-balanced expansion pack content updates to the game state's original mastery experiences motivate veteran *WoW* players to keep playing such that they continue to gain self-efficacy, and in turn remain committed to the game, creating a virtuous cycle of player retention (Figure 6). Two further expansions, *Midnight* and *The Last Titan*, were announced in 2023.¹



FIGURE 4. *WoW: Classic 20th Anniversary Edition* character creation screen.



FIGURE 5. *WoW: The War Within* character creation screen.

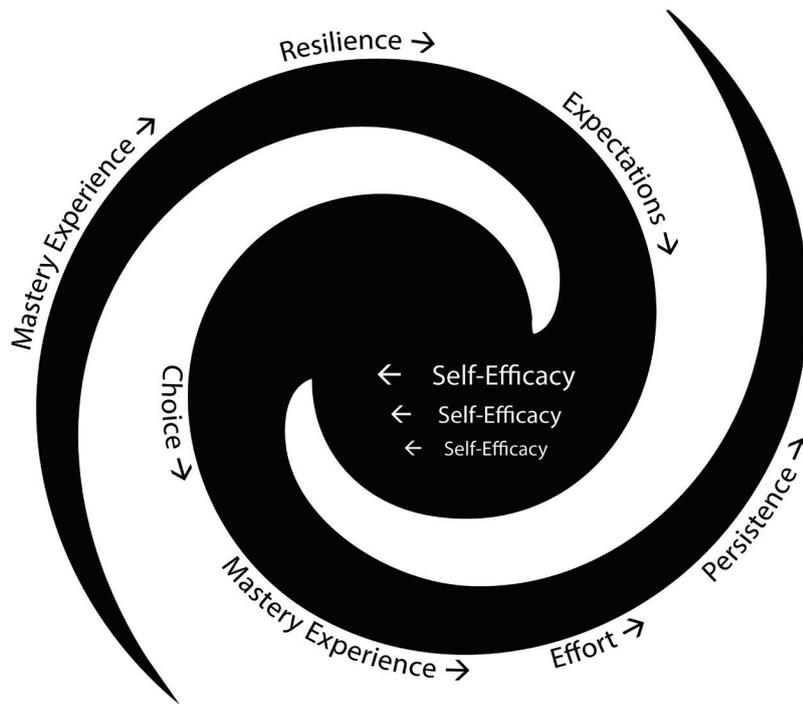


FIGURE 6. A gamer's self-efficacy is the state of their individual belief in their ability to succeed in a specific game context. It continuously influences resilience, expectations, task choice, effort, and persistence.

So, perhaps according to a grand plan, WoW's mastery experiences have built upon each other over the years and allow players to use their past performance information to help them select new tasks that they believe they can accomplish in WoW today, for example, the 2021 Blizzard release of *WoW Classic: Season of Mastery* servers that expanded on the classic servers, by changing some of the original mechanics from when the game was released.²³ There is an extensive list of changes that Blizzard implemented for the *Season of Mastery* servers, including character alterations to improve class balance, new raid mechanics to make the raid bosses more difficult, and an experience boost for players who are questing to allow them to reach the max level faster.²³ And in 2023, Blizzard released *WoW Classic Hardcore* servers, allowing for an extra challenge, in the form of perma-death, for players who enjoy the preexpansion version of the game.²⁴ Along with the *Classic Hardcore* servers, Blizzard

also released *WoW Classic: Season of Discovery*, which is similar to *Season of Mastery*, putting a spin on the original mechanics of *Classic WoW* with a focus on discovering new abilities and reworked content.²⁵ Ultimately, the fresh content that attracts skilled WoW players with its progressive challenge updates continues to build player self-efficacy and manifests their choice for continued playtime. Did this make WoW the GOAT. of longevity at 20 years with an estimated 158 million total player base?²⁶

This GUR also found a significant relationship between a WoW player's self-efficacy and goal orientation. Previous studies suggested that a person's perceived competence or perceived ability moderates the relationship between goal orientation and their task performance.^{27,28} These considerations indicate that when examining self-efficacy's relationship with player

commitment, the mastery experiences need specialized outcomes such that performance goals are designed to meet their player type motivations. This is an issue to address because many massively multiplayer games are not able to balance the experiences that satisfy their experienced players' goals and also give novice players a satisfying mastery experience, essentially choosing to shut the door to one to satisfy the other and limiting player base growth. To better understand self-efficacy's goal related player motivators in WoW, part two of this article series maps players' goal orientations to WoWs' performance feedback systems. **C**

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