



# **UNIVERSITY OF SUFFOLK**

## **BA (HONS) COMPUTER GAMES DESIGN**

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**Creation of a Framework for the Development of Quality  
Online Communities in Massively Multiplayer Online Role-  
Playing Games Using Self-Determination Theory**

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# 1. Introduction

Massively Multiplayer Online Roleplaying Games, or MMORPG's, are a genre of game with a player base of hundreds of thousands at its core (*Bean & Groth-Marnat, 2014*). The genre offers players the opportunity to immerse themselves in an open world with thousands of other players through personalised avatars within the same space (*Cole & Griffiths, 2007*). The MMORPG offers an experience of social play unlike any other genre of video game, and at its core is the game's community. The lasting presence of MMORPG games in the industry could be attributed to the genre's ability to allow players an environment in which they can establish meaningful relationships within the game world that contribute to a satisfaction of relatedness and social wellness, in addition to their play as traditional games.

Despite the unique gameplay experience of the genre, the popularity of the MMORPG has been dwindling in recent years (*Clement, 2021*). This is apparent by the subscription rate of perhaps the most popular and widely known MMORPG, *World of Warcraft* (*Blizzard Entertainment, 2004*). In 2014, *World of Warcraft* saw its peak subscription count at 12 million players, though as that number decreased, developers stopped reporting subscription numbers. The latest reported subscription count for *World of Warcraft* was 5.67 million in 2016, though that is estimated to decrease to 4.46 million by 2023.

A plausible explanation for the drop in subscription numbers is the change of marketing philosophy in recent years towards selling microtransactions (*Clement, 2021*), the value of which outweighs the loss of subscription numbers. This is demonstrated in the game systems of *World of Warcraft*, for example, through daily or weekly content, generally referred to in this study as repeatable content. Additionally, the inclusion of matchmaking-based content in MMORPG's, such as the group finders present in many contemporary MMORPG's, like *World of Warcraft* or *Final Fantasy 14* (*Square Enix, 2010*), has led to a decline in meaningful player interaction. With the manual process of finding a group removed, players lose the autonomy of choice over who they opt to play group content with, reducing opportunity for meaningful relationships to form. It is these mechanics that may have resulted in the social aspects of MMORPG's that made the genre so appealing in the first place to be diminished.

## 1.1 Application of Self-Determination Theory

For the uninitiated, the concept of repeatable content in an MMORPG could only improve maintained subscription rates. However, through the lens of self-determination theory, or SDT, it is made clear that pushing the player-base of an MMORPG to complete mandatory repeatable content could easily compromise sustained play.

In the study of SDT, spearheaded by Edward Deci and Richard Ryan (1985), the concept of intrinsic and extrinsic motivation is described as such:

- Intrinsically motivated tasks are done because the task itself is fulfilling.
- Extrinsically motivated tasks are done to receive a necessary reward.

Within MMORPG's, an extrinsically motivated task would be one that must be done in order to complete the content one may be intrinsically motivated to engage with. For example, repeatable content that is essential to progression of player power. Extrinsic motivation is generally considered to be less compelling, and less satisfying to the psychological needs of autonomy, competence, and relatedness as described in the theory of SDT.

## 1.2. Objectives of this Study

In order for MMORPG's to maintain their appeal as a genre, it is essential that developers begin to develop games with community engagement at the centre of its design philosophy. In order to do so, this study suggests an approach informed by SDT.

To inform the concepts posited in this study, a survey has been carried out, with the intention of gathering player opinions on the following:

- Attitudes towards matchmaking-based content.
- General opinions regarding competition amongst peers in group content.
- Attitudes towards repeatable content and its relevancy in contemporary MMORPG's.

Analysis of the survey results, informed by SDT and its minitheories, will be used to inform design suggestions regarding a revitalisation of community wellness in contemporary MMORPG's. The primary aims of this work are outlined as such:

1. Discuss the relevancy of matchmaking-based content in contemporary MMORPG's, and how the design philosophy of matchmaking-based content can be altered to support higher quality social play.
2. Evaluate the use of performance-measuring tools in MMORPG's as a method of encouraging demonstrations of competence amongst players in a group, with the intention of enhancing relationships via the understanding of relationships motivation theory
3. Analyse the impact of extrinsically motivated repeatable content on the overall wellness of an MMORPG's community, and steps that can be taken to make said content easier to internalise.

## 1.3. MMORPG Vocabulary Used in this Study

When analysing the survey, as well as the topics pertaining to it, discussion of mechanics exclusive to MMORPG's will be made, for example in reference to 'dungeon' or 'raid' content. Most terms used will be sourced from *World of Warcraft*, though some discussion of mechanics exclusive to *Final Fantasy 14* are also present. *World of Warcraft* has been picked as the primary example in this study due to its popularity, and name recognition as a pioneer of contemporary MMORPG game design. Additionally, the survey present in this study is answered by a sample of *World of Warcraft* players, who may not be familiar with other MMORPG's.

Due to a lack of academic studies in the past regarding the intricacies of specifically MMORPG game design, discussion regarding exclusively MMORPG game mechanics will not always be cited. Specific mechanics can be found within the game being discussed at the time, though discussion of general player opinion (where not sourced from the survey), usage of add-ons, or the inner workings of social structure within MMORPG's will not have an academic source. Where this is the case, information regarding those topics can be found on fan made websites, forums, or wiki's.

## **2. Literature Review**

### **2.1. Introduction**

The goal of this literature review is to analyse and evaluate key research in the field of online communities and prosocial interaction. Literature assessed in this review will explore a multitude of motivation theories, analysing their use regarding MMORPG design, and evaluating their strengths and flaws. Each header of this review will identify key literature in the topic and provide an overview of the source material. Each key paper may be supported by additional literature in the relevant area of research, in order to fully evaluate the topic at hand. This literature review will be concluded in section 1.5, further illustrating the advantages and disadvantages of implementing a motivation-based framework when developing for massively multiplayer communities.

### **2.2. Self-Determination Theory**

The first section of this literature review will document the key contemporary literature concerning the study of self-determination Theory, hereby referred to as SDT, as well as its application to the study of online games.

#### **2.2.1. Definition of SDT**

In contemporary literature, the study of SDT is pioneered by Edward Deci and Richard Ryan. In their 2017 book *Self-Determination Theory: Basic Psychological Needs in Motivation, Development and Wellness*, the authors propose that SDT approaches the concept of motivation from an ‘organismic perspective’, suggesting that motivation, intrinsic or extrinsic, stems from a basic psychological need established from infancy. The study of SDT posits that all motivation is driven by the desire to satisfy the three basic psychological needs of autonomy, competence, and relatedness. Additionally, expression of curiosity, creativity, productivity, and compassion are most encouraged when these basic psychological needs are satisfied within a social context.

##### **2.2.1.1 The Three Basic Psychological Needs**

Deci & Ryan (2020) describe autonomy as ‘a sense of initiative and ownership in one’s actions’. Autonomy is supported by actions of self-interest, and autonomy motivation is decreased by external motivators such as a reward or penalty. Competence concerns the ability to improve and express mastery in a task. Competence is supported by optimal challenge, the ability to improve, as well as intrinsic positive feedback. Finally, relatedness is the feeling of belonging, or being seen as welcomed by a community. Relatedness is support by feelings of respect from others. To be deprived of any of the three basic needs would be a detriment to motivation and psychological vitality.

### **2.2.2. Intrinsic and Extrinsic Motivation**

In 2020s *Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions*, Deci & Ryan describe intrinsic motivation as ‘for its own sake’, for the sole purpose of enjoyment; be it play, exploration, or curiosity. Goals and activities that inspire intrinsic motivation are not completed for an external purpose; for example, economic gain, but instead the accomplishment of the goal alone is what satisfies a basic psychological need, leading to an improved vitality. Conversely, a task that is extrinsically motivated is done because one feels it must be completed in order to receive a reward of benefit. When completing an extrinsically motivated task, one would be expected to feel less persistent in their task, and their vitality would decline.

#### **2.2.2.1 Cognitive Evaluation Theory**

Intrinsic and extrinsic motivation is not always so clearly separated, however. In Ryan’s 1985 paper *Control and Information in the Intrapersonal Sphere: An Extension of Cognitive Evaluation Theory*, He proposes that the introduction of an extrinsic reward can reduce intrinsic motivation and interest in a task. Cognitive Evaluation Theory, hereby referred to as CET, also posits that surveillance, deadlines, and evaluation can also have an adverse effect on intrinsic motivation. Conversely, the absence of reward and the inclusion of choice can internalize an extrinsically motivated task. The level of intrinsic motivation in a task may also be altered by ones perceived competence. Ryan posits that an enhanced perception of competence will increase intrinsic motivation, whereas a recession in perceived competence may harm vitality, and decrease intrinsic motivation.

Ryan does not confirm that the inclusion of an extrinsic reward will always lead to a loss in intrinsic motivation, noting that performance-contingent rewards have shown to both increase and decrease intrinsic motivation in separate studies. Ryan suggests that the result of the introduced reward depends on context; were the reward to imply a degree of pressure to complete a goal, the intrinsic motivation to complete the task at hand would decrease. Likewise, verbal reinforcement that does not imply pressure to attain a particular outcome will increase intrinsic motivation.

#### **2.2.2.2. Organismic Integration Theory**

In addition to CET, Deci & Ryan (2020) also propose the Organismic Integration Theory, hereby known as OIT. OIT documents the understanding of internalization of extrinsically motivated tasks, as per the level of autonomy available. Internalization of an activity occurs when a person performing an extrinsically regulated task begins to enjoy or take pride in their task. Referring back to CET, this could occur as a result of a perceived improvement in competence, or if one sees personal value in the completion of a task. Whatever the reason for internalization, the process will satisfy the intrinsic need of autonomy, thus improving psychological wellness when performing an extrinsically motivated task.

### **2.2.3. Relationships Motivation Theory**

The satisfaction of the psychological basic need of relatedness is imperative to building long lasting relationships. However, in 2014’s *Autonomy and Need Satisfaction in Close Relationships: Relationships Motivation Theory*, Deci & Ryan posit that the satisfaction of relatedness alone does not constitute a high-quality relationship. Indeed, a relationship must also offer the opportunity to satisfy the intrinsic needs of autonomy and competence to be of a higher quality.

Relationships Motivation Theory, hereby known as RMT, notes that, typically, somebody who autonomously chooses to commit to a closer relationship will likely experience higher quality psychological wellness in that relationship than if they were to be put into a relationship by more controlled means. An autonomously selected relationship is hypothesised to be more effective in dealing with potential relationship conflict.

In the context of this study, RMT supports the notion that the need of relatedness will be satisfied to a higher quality in most cases should a player choose who they play with autonomously. Forming relationships in an in-game social group such as *World of Warcraft's* guilds, and completing content with autonomously chosen partners will theoretically satisfy the intrinsic need of relatedness to a further degree than content in which the player is sorted into social groups with other players by an in-game sorting system, such as *World of Warcraft's* looking for group/looking for raid mechanics.

#### **2.2.4. Player Experience of Need Satisfaction**

Richard Ryan's documentation of self-determination theory has led to its application into the field of video games. The player experience of needs satisfaction model, hereby referred to as PENS, is a framework that views game development through the lens of SDT, with the interest of creating a positive player experience through the satisfaction of the three base psychological needs discussed in SDT literature. In *The Player Experience of Need Satisfaction: An Applied Model and Methodology for Understanding Key Components of the Player Experience (2007)*, the PENS model is described as looking "beyond the surface level emotional expressions of 'fun'" and instead establishes a development framework that explores a games ability to satisfy the intrinsic psychological needs of autonomy, competence, and relatedness. Rigby & Ryan posit that the measuring of the casual elements that create fun is more beneficial to developers than simply observing outcomes, valuing not only the desired emotional response of an experience, but also more specifically the psychological experiences that will result in the desired outcome.

Rigby & Ryan define three aspects of gameplay that the PENS model interacts with: game mechanics, gameplay, and player narrative. Game mechanics refer to controls, user interface, or any other system that allows the player to interact with the game world, gameplay is in reference to the activity of the player and what they are doing within the game world, and player narrative refers to the positive feedback loop of the player character's progression over the course of the gameplay, including metagame elements, such as online forums and social groups.

##### **2.2.4.1. Competence in PENS**

The PENS model notes that mastery of game mechanics can be defined as a 'price of admission' to the gameplay experience. As such, competency within the game experience is crucial to satisfaction in gameplay. It should be understood, however, that difficulty in the understanding of game mechanics and the mastery of gameplay are not misinterpreted as the same. While players have an intrinsic need to be challenged by gameplay, game mechanics should become a natural extension of human intuition akin to, as Rigby & Ryan describe it, the act of walking.

Rigby & Ryan note that the intrinsic need for competence is most satisfied in gameplay when their personal mastery and the challenges presented by gameplay are most closely matched. While this may be similar to the theory of flow posited by Csikszentmihalyi (1990), the authors of PENS note that flow theory does not explain the underlying psychological factors of mastery and its associated behaviours. It has been observed that players will seek out challenges within a game that match their abilities, in order to enhance their own competence. This is when the intrinsic need of competence is satisfied, as is the psychological wellness benefit of Csikszentmihalyi's theory of flow.

While creating optimal challenge for the player is essential to a psychologically satisfying gameplay experience, the act of simply overcoming challenge is not enough to motivate players to return to a game. Additionally, the player must be able to express their mastery of the gameplay experience by improving overtime, eventually being able to easily conquer once difficult challenges in gameplay. While suggesting that the easy challenge would be psychologically satisfying contradicts the earlier hypothesis regarding balancing challenge with player competence, the realisation of newfound mastery is very satisfying to the players psychological need regardless.

#### **2.2.4.2 Autonomy in PENS**

In experiences where the player has a degree of autonomy, the perception of player agency must not be thwarted, as choices forced upon the player removes the perception of autonomy and is thus demotivating. Instead, developers should take steps to maximise what Rigby & Ryan refer to as 'opportunities for action'. Opportunities for action are defined by the options players believe they can make in gameplay, either through interactive objects in the game world, and the ways in which the player can meaningfully interact with these game world elements.

The PENS model also discusses the importance of player agency in regard to customisation of player character, and the when, where, and how of what they choose to do, each of which satisfying the need of autonomy in their own right. Rigby & Ryan specifically note RPG and MMO titles as games that most intensely satisfy the need for autonomy, due to the nature of their open-ended gameplay.

#### **2.2.4.3. Relatedness in PENS**

The PENS model, similar to the hypothesis posited by RMT, suggests that players are more motivated to play when presented with the opportunity to intrinsically choose who they opt to play multiplayer games with. Rigby & Ryan suggest that autonomy in the decision of choosing who to play with is especially beneficial in MMO games, improving perceived value, enjoyment, and sustained play of the title at hand.

Rigby & Ryan also document the importance of NPC characters, and their motivational impact on players through interactive dialogue, and through positive feedback regarding the player's in-game achievements and choices, thus also reinforcing the satisfaction of autonomy and competence.



#### 2.2.4.4. Analysis of PENS

The PENS model approach pioneers a heavily researched framework that provides game developers a lens beyond the concept of 'fun'. Providing a framework that looks into the individual facets of psychological motivation instead documents game development down to individual facets of game design.

Indeed, Rigby & Ryan present proof of the PENS models success in their 2007 paper. The authors specifically use an example of a study regarding an MMO over eight months. Players were asked at the beginning of the research about their experience of the game regarding 'fun', but also asked them questions regarding their needs satisfaction in autonomy, competence, and relatedness. After 8 months, the PENS model proved more effective as a measure of predictive enjoyment:

Table 5: How Player Need Satisfaction (PENS) and Fun/enjoyment in Month 1 correlate to player subscriptions and feelings eight months later (Correlations)		
Player Feelings (after 8 months)	PENS - Month 1	Fun - Month 1
Still Playing in Month 9	.46**	.18
Interest in sequel/more games by the developer	.38*	.34
"This game rocks!"	.56**	.46**
Game Value	.54**	.37**

\*p<.05    \*\*p<.01

While the PENS model is a proven successful measurement of 'fun', the framework offered by it does not account for individual player personalities. As such, PENS can only supply a broad lens of 'mass appeal' and may not successfully measure sustained enjoyment of a game to a specific audience. To remedy this, the PENS model's importance in game development cannot be understated, but additional understanding of a title's core player base must also be considered for the longevity of a game's success.

In regard to this study specifically, the PENS model further reinforces the concept that intrinsically chosen social groups are the most valuable when considering MMO game development. When considering the PENS model and relationships motivation theory together, a possible hypothesis arises that players may indeed be less motivated when filtered into automatic, matchmade groups, where the intrinsic sense of autonomy in choice is removed from the player.

#### **2.2.4.5. Game Experience Questionnaire**

The Game Experience Questionnaire, or GEQ, is a series of questions to be provided to a play tester following a gameplay session (*IJsselsteijn, et al, 2013*). The GEQ is split into three components, the core questionnaire, the Social Presence Module, and the Post-Game module. The core questionnaire is designed to establish a player's attitude towards seven in-game components: flow, competence, positive and negative affect, tension, and challenge. The Social Presence Module establishes how a player responded to social interactions in the game world, whether those interactions were with a virtual AI character, or with an online peer. Finally, the Post-Game Module establishes the play tester's feelings towards the game after the play session has ended, which is relevant to the assessment of when a player chooses to voluntarily play again.

Like the PENS model, GEQ is one of the more commonly used measurements of player experience in industry (*Johnson, et al, 2018*). Where PENS is steeped in an understanding of Self-Determination Theory, GEQ does not rely on specific theory at all, instead relying entirely on the data gathered by the accounts of players who have completed the GEQ. In a study with a developed artefact, GEQ would be an effective measure of player experience, however this study requires a theory-based approach, due to its lack of artefact. Due to this reason, the PENS analysis is more appropriate for this particular study.

## 2.3. Big Five Inventory

### 2.3.1. The Big Five Personality Factors

The Big Five Inventory, or BFI, is a range of factors of personality traits. By understanding the personality traits of an individual, their motivations can be more effectively studied. Boele De Raad, in 2000s *The Big Five Personality Factors: The Psycholexical Approach to Personality* describes the big five personality factors as follows:

Table 1: The Five Factor Model (De Raad, 2000)

Personality Factors	Factor Traits	Opposite Traits
<b>Extraversion</b>	Talkative Frank, open Adventurous Sociable	Silent Secretive Cautious Reclusive
<b>Agreeableness</b>	Good-natured Not jealous Mild, gentle Cooperative	Irritable Jealous Headstrong Negativistic
<b>Conscientiousness</b>	Fussy, tidy Responsible Scrupulous Persevering	Careless Undependable Unscrupulous Quitting, fickle
<b>Emotional Stability</b>	Poised Calm Composed Not hypochondriacal	Nervous, tense Anxious Excitable Hypochondriacal
<b>Culture</b>	Artistically sensitive Intellectual Polished, refined Imaginative	Insensitive Unreflective, narrow Crude, boorish Simple, direct

BFI was developed based on the traits that would correlate between individuals descriptions of themselves, although exceptions can occur. For example, an extravert can identify as both talkative and secretive, despite those traits appearing to contradict each other. However, the BFI implies that it is not impossible, but more likely that an extravert would be both talkative and frank.

The BFI is useful in this study due to its importance when studying qualitative data gathered from players. An understanding of the most common big five factors that manifest in a player base would be valuable information to developers that wish to develop for that base, allowing for a development framework that creates further sustained play when considered alongside the PENS model.

### 2.3.2 Cumulative BFI Data

In 2014, Anthony Bean and Gary Groth-Marnat's *Video Gamers and Personality: A Five-Factor Model to Understand Game Playing Style*, the authors gather a comprehensive amount of qualitative data regarding the big five personality factors of *World of Warcraft* players:

Table 2  
*Means of Personality Scores Across Gender*

Personality scales	Gender	<i>M</i> ( <i>SD</i> )	<i>M</i> difference	<i>p</i>	Cohen's <i>d</i>
Extraversion	Male	24.63 (6.91)	.72	.113	
	Female	23.91 (7.04)			
Agreeableness	Male	32.10 (6.16)	1.85	<.001*	.31
	Female	33.95 (5.87)			
Conscientiousness	Male	31.50 (5.80)	.44	.250	
	Female	31.94 (5.93)			
Neuroticism	Male	20.55 (6.21)	3.94	<.001*	.62
	Female	24.49 (6.46)			
Openness	Male	37.00 (5.86)	1.79	<.001*	.31
	Female	38.79 (5.57)			

Note. *M* = Mean; *SD* = Standard deviation.

\*  $p < .001$ , two-tailed.

The data suggests that *World of Warcraft* players do not in fact fit the often-stereotyped characteristics of antisocial personality factors (low conscientiousness, low agreeableness, and high neuroticism) posited by certain research (Markey et al, 2014).

Table 3  
*Means of Personality Scores Across Play Style*

Personality scales	Play style	<i>M</i> ( <i>SD</i> )	<i>p</i>	Power
Extraversion	PvP*	25.64 <sup>b</sup> (6.96)	.002**	.903
	PvE*	24.06 (6.90)		
	RP*	22.49 <sup>a</sup> (7.19)		
Agreeableness	PvP*	32.98 (5.70)	.200	.342
	PvE*	32.01 <sup>c</sup> (6.29)		
	RP*	34.81 <sup>c</sup> (5.25)		
Conscientiousness	PvP*	30.29 <sup>a</sup> (6.18)	.004**	.850
	PvE*	32.02 <sup>b</sup> (5.57)		
	RP*	29.50 <sup>a</sup> (5.79)		
Neuroticism	PvP*	20.72 <sup>a</sup> (6.08)	<.001***	.968
	PvE*	21.46 <sup>a</sup> (6.49)		
	RP*	25.42 <sup>b</sup> (6.99)		
Openness	PvP*	37.24 <sup>a</sup> (6.03)	.026*	.677
	PvE*	37.21 <sup>a</sup> (5.65)		
	RP*	39.72 <sup>b</sup> (6.87)		

Note. *M* = Mean; *SD* = Standard Deviation; PvP = Player vs. Player; PvE = Player vs. Environment; RP = Role-playing.

<sup>a,b</sup> MANOVA statistically significant from each other. <sup>c</sup> Univariate statistically significant from each other.

\*  $p < .05$ . \*\*  $p < .005$ . \*\*\*  $p < .001$ .

Bean & Groth-Marnat express that their BFI findings regarding *World of Warcraft* players match that of the average conscientiousness, agreeableness, openness, and extraversion, and are additionally less neurotic.

The data suggests that players who opt to engage mostly in player versus player content, or PvP, are generally more extroverted, less neurotic, and less open than those who mostly engaged in player versus environment (PvE) or role play (RP) oriented players. This data suggests that players who engage mostly in PvP content will not attempt to seek out new experiences within the game and rely less on connections with players that prefer different styles of play.

The data suggests that PvE players overall scored lower on agreeableness and openness but were more conscientious than the players that typically prefer PvP. PvE players were more extroverted and less neurotic than RP players, but less extroverted and more neurotic than PvP players. Like PvP players, the data suggests that PvE players are less open to new experiences within *World of Warcraft*. Their scores do however suggest a deeper sense of empathy and care for others well-being.

RP players are shown to have scored higher on agreeableness, neuroticism, and openness, and scored the lowest of the three gameplay styles on extroversion and conscientiousness. This suggests that RP are more open to the different styles of play compared to PvP and PvE players. RP players are also suggested to be more likely to get anxious or upset with other players.

Table 5  
*Comparison of Mean Scores of the BFI to World of Warcraft Players*

Personality scales	BFI <i>M</i> ( <i>SD</i> )	WoW <i>M</i> ( <i>SD</i> )
Extraversion	25.06 (7.20)	24.53 (7.01)
Agreeableness	34.38 (6.12)	32.93 (6.06)
Conscientiousness	33.57 (6.39)	31.95 (5.84)
Neuroticism	25.04 (6.88)	21.57 (6.55)
Openness	39.00 (6.90)	37.64 (5.73)

*Note.* BFI = Big Five Inventory; WoW = World of Warcraft; *M* = Mean; *SD* = Standard Deviation. *Source:* Srivastava, S., John, O.P., Gosling, S.D., & Potter, J. (2003). Development of personality in early and middle adulthood: Set like plaster or persistent change? *Journal of Personality and Social Psychology*, 84, 1041–1053.

The cumulative data gathered by Bean and Groth-Marnat benefits this study greatly in that it saves a significant portion of time gathering qualitative data regarding the BFI factors of MMO players. The analysis of the data regarding the three playstyles present in *World of Warcraft* will be an important cumulative base, although further analysis of the data in regard to how it correlates with SDT and PENS theory will be necessary for it to truly be useful to the study of relatedness in online games.

## 2.4. Motivations for Play in MMORPGs

*Motivations for Play in MMORPGs (2005)* is a paper by Nick Yee, in which the author provides a model of player motivations in MMORPGs. This model serves to provide an understanding of how players differ in playstyle and preferred content, and how in-game motivations relate to age, gender, and in-game behaviour.

### 2.4.1 Bartle's Player Types

Bartle's Player Types (*Bartle, 1996*) is a player taxonomy developed from experience in working with Multi-User Domains (MUDs). The four types of user that Bartle describes are Achievers, Socializers, Explorers, and Killers. This model serves as a useful foundation for understanding the motivations of different players, however, in *Motivations for Play in MMORPGs*, Yee notes the taxonomy's weakness, in that Bartle suggests the four types of user are distinct, even though, for example, a 'killer' could enjoy the talkative aspects of a 'socializer'. Yee also notes that Bartle has provided no method of assessment for players to learn what their type of user might be.

In the interest of this study, Bartle's Player Types will only be used as a foundation for the understanding of Yee's literature. The taxonomy is superseded not only by the literature of Nick Yee that is about to be discussed, but also by the PENS model documented earlier in this review.

### 2.4.2. Yee's Factor Analysis

In order to improve upon Bartle's approach, Yee surveyed 3000 MMORPG players based on the MUDs presented in Bartle's taxonomy. The goal of this survey was to create a factor analysis that solved the weaknesses of Bartle's model. The components of player motivation established by the factor analysis are as follows:

Achievement	Social	Immersion
<b>Advancement</b> Progress, Power, Accumulation, Status	<b>Socializing</b> Casual Chat, Helping Others, Making Friends	<b>Discovery</b> Exploration, Lore, Finding Hidden Things
<b>Mechanics</b> Numbers, Optimization, Templating, Analysis	<b>Relationship</b> Personal, Self-Disclosure, Find and Give Support	<b>Role-Playing</b> Story Line, Character History, Roles, Fantasy
<b>Competition</b> Challenging Others, Provocation, Domination	<b>Teamwork</b> Collaboration, Groups, Group Achievements	<b>Customization</b> Appearances, Accessories, Style, Colour Schemes
		<b>Escapism</b> Relax, Escape from RL, Avoid RL Problems

### 2.4.3. Analysis of Motivations For Play in MMORPGs

Yee's components of motivation serve to inform application of the PENS model specifically to MMORPGs. In doing so, developers will have a deeper understanding of which experiences in their game players who most seek to satisfy the psychological need of relatedness are engaging with, as well as *how* they opt to engage with the gameplay experience.

It is worth noting however, than Yee has since crafted a more contemporary taxonomy of player motivation in the form of the Gamer Motivation Model (*Quantic Foundry, 2015*):

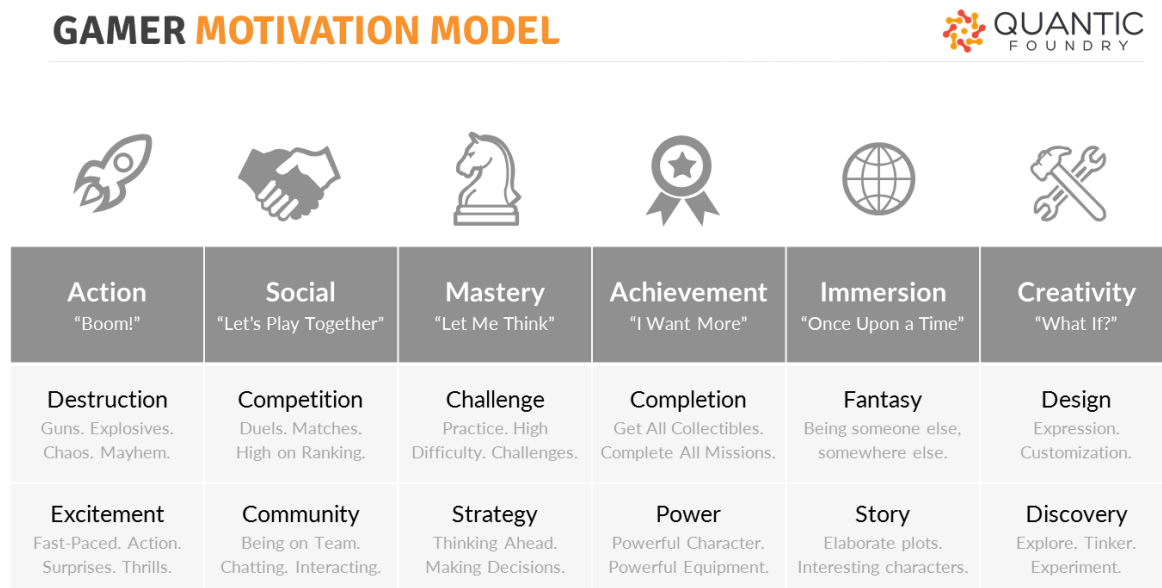


Figure 1: Quantic Foundry (2015)

While the Gamer Motivation Model is a more contemporary taxonomy of motivation, its understanding is in the medium of video games as a whole and does not specify for MMORPGs specifically. In this regard, it could be argued that both taxonomies are valuable to this study.

## 2.5. Reasoning for Motivational Approach

An approach informed by self-determination theory has been selected for this study due to the separation of individual psychological needs allowing for a focus, specifically on relatedness. Informed by relationships motivation theory, the developer can design with the need for relatedness as a first priority, thus informing the development of an online game that hypothetically puts community first. With an established framework steeped in the psychological need for relatedness, this approach then offers the opportunity for PENS analysis of mechanics and gameplay, thus developing the game in such a way that satisfies autonomy and competence, informed by a foundation for relatedness, expressly designed for a higher-quality online community.

### 3. Survey Analysis

In order to determine the accuracy of the theory and literature supporting this study regarding the general opinion the *World of Warcraft* player base, a survey was carried out, which 27 participants were involved in. Participants were gathered from a population pool that was familiar with the current *World of Warcraft* expansion, *Shadowlands*. Questions in the survey were provided in the form of a 5-point Likert scale, in which the responses ranged from 'disagree' to 'agree'. The Likert scale is typical of surveys that gather a population's opinions or attitudes towards a subject (Losby et al. 2012). The survey gathered the players opinions on social content, and the importance of relatedness to each player personally, competitiveness in group content, and player retention through daily and weekly content.

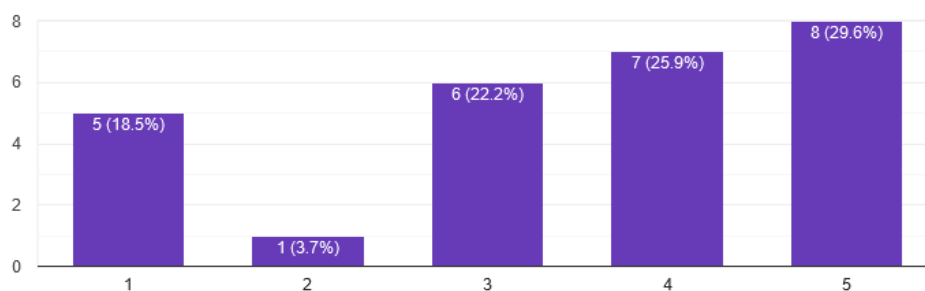
Referring to the psychology behind self-determination theory (Deci & Ryan, 1985) as well as the more contemporary PENS model (Rigby & Ryan, 2007), it would be reasonable to predict that players will prefer multiplayer gameplay over solo content and will prefer to play with a close-knit group of peers. It could also be fair to assume that players will enjoy competition, and the ability to express their competence through social and group content, per the understanding of relationships motivation theory (Deci & Ryan, 2014). Players will most likely be deterred by content that they have an extrinsic need to complete, perhaps in order to access the content they have an intrinsic desire to play.

#### 3.1. Player Determination Through Social Content

The first section of the survey gathered data about the habits and opinions of the participant's in regard to how they engaged with social content in *World of Warcraft*. Based on an understanding of typical player motivation laid out in the PENS model, as well as the relationships motivations theory, it would be reasonable to expect players to have an increased motivation to play due to the satisfaction of the psychological need for relatedness. Players may also have an aversion to engaging in multiplayer content in which the players autonomy of choice regarding who they play with is taken away.

I find myself playing group or raid content mostly, or even exclusively, with players I'm already familiar with.

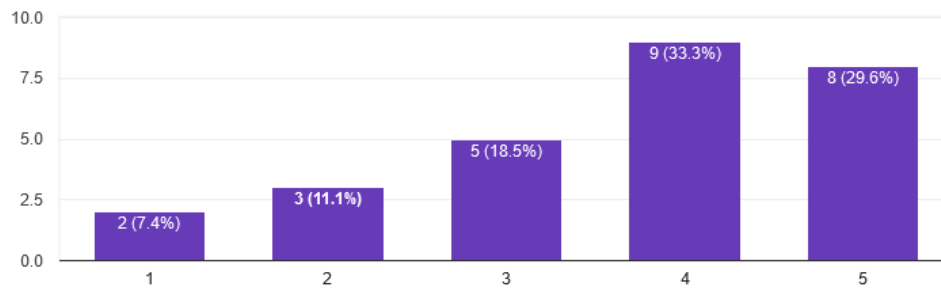
27 responses





The social aspects of World of Warcraft are what keep me playing the game.

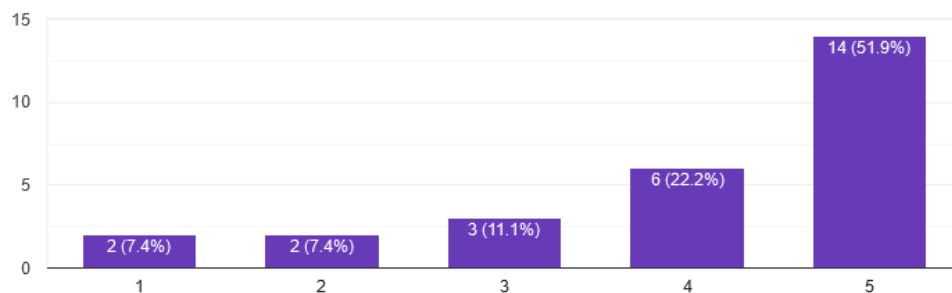
27 responses



The first couple questions of the survey ask the participants whether they *regularly* play *World of Warcraft* with players they've already played with before, and whether their motivation to play is steeped in their desire to engage with the social systems in the game. As predicted, both results skew more towards the 'agree' side of answers. This is typical of what the PENS model suggests of MMO games, which posits that relatedness is significant in the 'sustained participation' of the genre.

When given the option, I would prefer to do content with a group than alone (e.g Torghast or world quests).

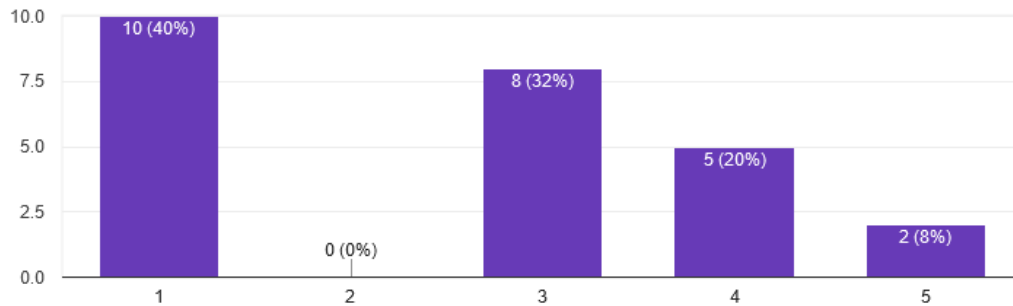
27 responses



The legitimacy of Ryan & Rigby's claim is reinforced in the next question, in which over half the participants strongly agreed that they would prefer to do content with a group than alone, given the option to do so. When discussing relatedness in the PENS model, Ryan & Rigby note that having the ability to intrinsically connect is when multiplayer games are considered the most satisfying. It could be expected then that the satisfaction of autonomy in making the decision to complete content with guildmates even though the option to complete that content alone is available would be naturally appealing.

The master loot system was better than the current personal loot system in retail WoW

25 responses



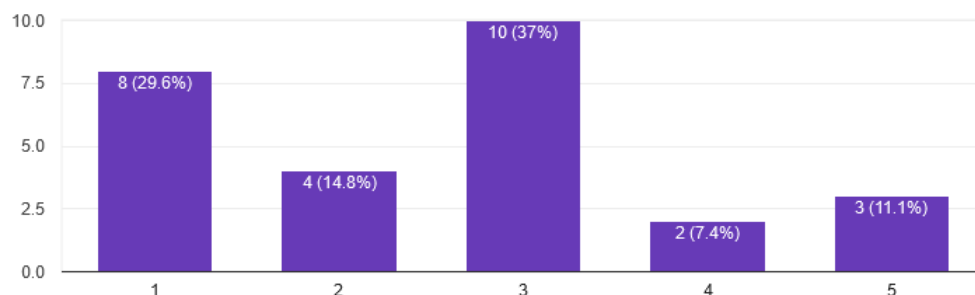
The next question regards which of the two different loot systems *World of Warcraft* has used over the course of its lifespan. Personal loot gives individual players in a group gear rewards at random at the end of group content, whereas master loot allowed the leader of a group to divvy out rewards to players themselves. Essentially, the personal loot system removes the human element of deciding who gets what rewards at the end of group content.

Discussion of which loot system is better is a hotly discussed topic in *World of Warcraft* fan communities online, often with higher level players, those of which who complete the highest difficulty content, arguing that master loot was better as a guild could funnel loot into the highest performing players. The common argument against master loot is that it is a source of relationship conflict, or 'drama', in the guild, where raid leaders would be accused of favouritism, or unfair treatment of other players.

It could arguably be predicted that players would naturally be averse to relationship conflict, as posited by relationships motivation theory. It would be especially expected of players of the *Shadowlands* version of *World of Warcraft* to prefer personal loot over master loot, due to those players choosing *Shadowlands* over the alternative *Classic* version of the game, where master loot is the default loot system, and thus being more likely to have a bias toward the system they are familiar with.

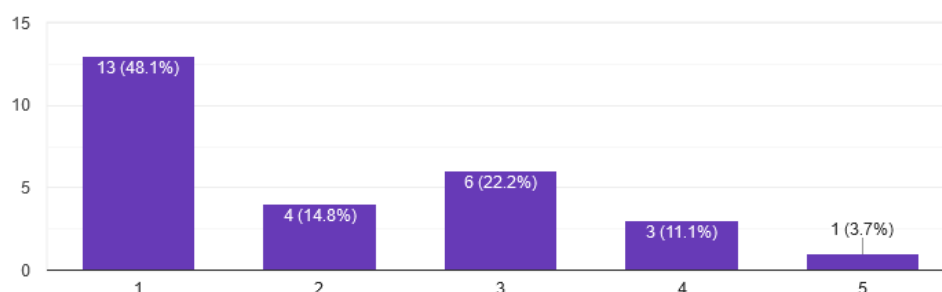
I make a point of avoiding all matchmaking content if it can be helped.

27 responses



I will only group with unknown players if said group also consists of players I know.

27 responses

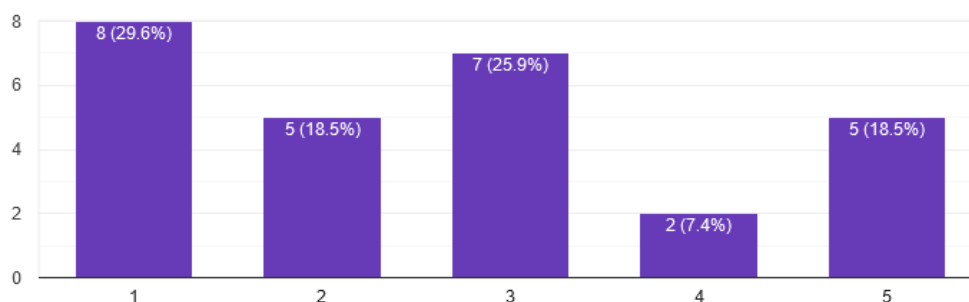


The next two questions in the survey regard player attitudes towards matchmaking systems and playing group content with unknown players. The expected attitude from players was that they would generally be averse to content with unknown players, due to losing the autonomy to choose who they play with intrinsically. It is surprising then, that players surveyed seem happy to complete matchmaking content. A possible reason for this is that matchmaking content is generally considered essential to much of the games character progression, as much of the early end-game gear is locked behind matchmaking group content. This would imply that players are completing matchmade content out of an extrinsic need.

Perhaps a more plausible explanation, however, is that players do not complete matchmaking content exclusively to satisfy a feeling of relatedness, but rather the psychological need for competence. While matchmade content is often done to progress ones character, organismic integration theory would posit that the act of completing matchmade content could easily be internalised. A skilled player may perhaps enjoy demonstrating their mastery through matchmade Mythic Plus content, especially if they have installed performance measuring add-ons like Details or Raider.io, the data from which they can share with guildmates and friends. Alternatively, they enjoy the possibility of entering a flow state (*Csikszentmihalyi, 1990*) as the mechanics and gameplay elements of the game come naturally to them in group content. Players may also wish to demonstrate their mastery in matchmade content by completing achievements, such as the Keystone Master achievements exclusive to each 'season' of Mythic Plus content, requiring the player to do each instance dungeon introduced in the current version of the game at a very high difficulty setting before the next season of Mythic Plus begins. These achievements offer cosmetic rewards, as well as proving a high level of mastery should a player acquire the achievement.

Raid finder devalues the experience of raiding, and shouldn't have been introduced to the game.

27 responses



The last question of this section of the survey concerns player attitudes specifically towards the matchmaking system for raid content. Like the different loot systems, raid finder is another controversial subject amongst the *World of Warcraft* fanbase, with some arguing that the systems introduction was a turning point towards a more casual gameplay experience.

The common argument made against raid finder is the argument also posited by the PENS model of all MMO multiplayer content; that the introduction of content that automatically filters players into a group they did not autonomously choose provides a lesser experience than completing raid content with a group of guildmates. Based on the literature informing this study, the inclusion of raid finder would generally be considered a lapse in game development decision making.

It is interesting then, that the answers provided by the participants of the survey skewed towards the belief that raid finder does not devalue the raiding experience. The common argument for raid finder being included in the game is that it is inclusive for players of a lower skill level, who may be unable to raid otherwise. However, it could be argued that a positive view of raid finder in *Shadowlands* content could also be a bias towards the systems already in the game, as well as features that are not found in the *Classic* version of the game, much like the personal loot system. After all, raid finder as a system was introduced in November 2011, almost a decade ago now, which may have given players time to grow accustomed to the system. It could still be argued that an approach to MMO game development that would better satisfy the need for relatedness would instead encourage newer or lesser skilled players to engage with guilds and social content, instead of creating a compromise like the raid finder system.

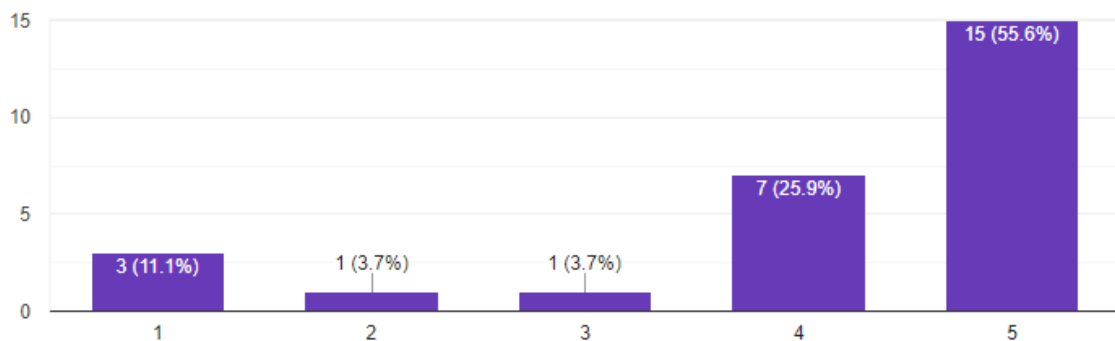
### 3.2. Add-Ons and External Tools

The second section of the questionnaire concerns the use of add-ons (mods) and external 'meta-game' scripts and programs that measure player performance. In discussion regarding competence in PENS, Ryan & Rigby (2007) make particular note of the importance of a player's ability to demonstrate an improvement in competence over time. In a PvE environment, it is typical of MMO players to measure their performance against their peers. While contemporary MMORPG games such as *World of Warcraft*, *Final Fantasy 14* (Square Enix, 2010), or *Elder Scrolls Online* (ZeniMax Online Studios, 2013) do not provide players with an objective measure of their performance in PvE content, third-party add-ons and programs have provided players the ability to measure their performance in a numerical value.

Given that performance measuring add-ons and third-party programs are often endorsed by PvE focused guilds in *World of Warcraft*, it would be expected that the players surveyed in this study would be looking to pay close attention to performance measurers in order to improve their competence, as well as compete against their peers.

I install as many add-ons that measure my performance as I can (e.g Details or Raider.io)

27 responses

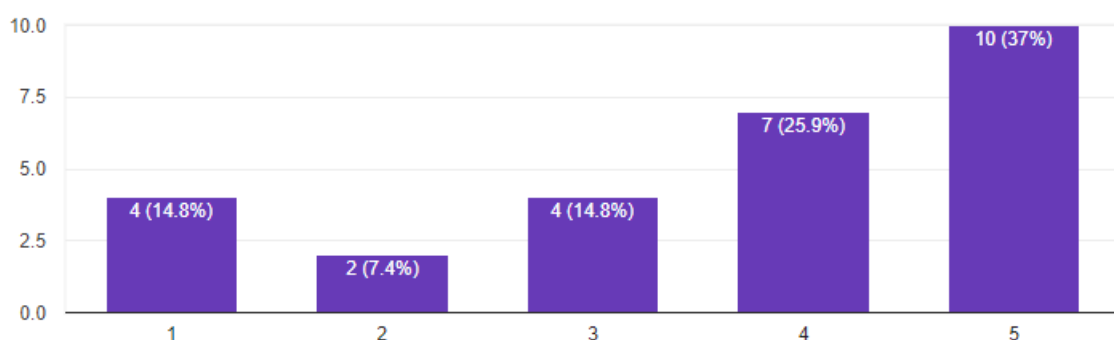


*Details* is an add-on for *World of Warcraft* that records various measurements, such as damage or healing per second, in real time. *Raider.io* records player progress through end game content in a numerical measurement.

As suspected, the *World of Warcraft* players surveyed lean toward using a range of performance measuring add-ons. As stated in the literature review segment of this study, the PENS framework suggests that players benefit from a clear display of their competence improving over time. An objective, numerical indicator of this improvement is thus naturally appealing to players engaging in PvE content

I pay close attention to external performance measuring tools (e.g Warcraftlogs or Wow Analyzer)

27 responses



*WarcraftLogs* records player performance, as well as the specific details of PvE encounters in an online database. *Wow Analyzer* analyses data taken from *WarcraftLogs* and identifies areas of play in which players can improve.

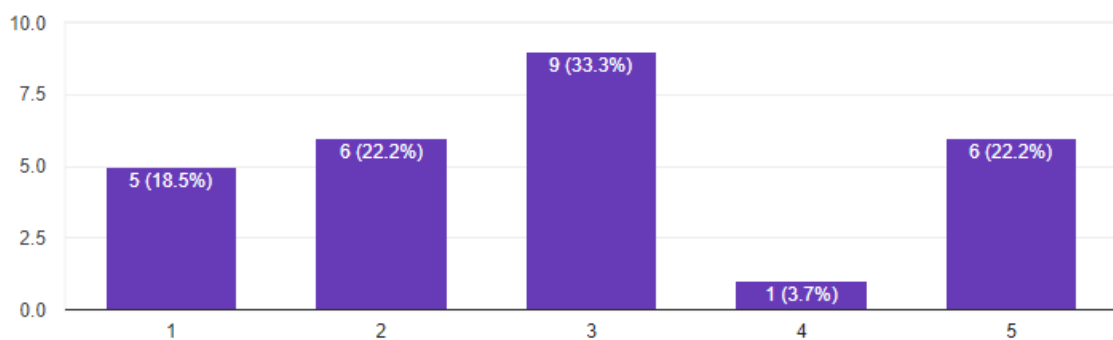
In addition to add-ons, metagame components of *World of Warcraft* also exist in the form of websites and online databases. *WarcraftLogs* (As well as *FFLogs* and *ESOLogs* for other contemporary MMORPGS, *Final Fantasy 14* and *Elder Scrolls Online* respectively) takes data from PvE encounters and records them in an online database that any player can view, offering a numerical value, or a 'parse' that indicates where a players performance stands against a percentage of other

similar players (For example, if a shadow priest player got a parse of 60 on a boss encounter, that would suggest they performed better on that content than 60% of other shadow priests that have also done that encounter).

Warcraft logs also dates when a player completed an encounter, meaning that they can watch how their performance on that encounter changes. This means they can objectively view their performance improve over time as their parses rise in value. Per the suggestion that players should have an opportunity to see their competence improve over time posited in the PENS framework, this process of improving and logging is very satisfying to players and could be a driving force behind repeatedly attending PvE events even after the player would not expect to see any increase in player power from them. It is not surprising, then, that the majority of players surveyed agreed that they pay close attention to *WarcraftLogs*, as the tool is used as a reasonable motivator for sustained play.

Performance measuring add-ons and tools create a toxic social environment in group and raid content.

27 responses



As it is the established culture in the *World of Warcraft* community to use performance measuring tools, it would be suspected that the majority of players surveyed would disagree that they create a toxic environment. After all, parses from *WarcraftLogs*, as well as Raider.io score, are often used in the recruitment process in PvE focused guilds to identify skilled players and as such these systems are embedded in *World of Warcraft* as a core part of the community.

While most players surveyed erred towards the side of disagreeing with the statement that performance measuring tools create a toxic environment, just over a fifth of those surveyed stated that they strongly believe performance measuring tools *do* create a toxic environment. A reasonable argument as to why developers exclude performance measuring systems from their games, is that it creates an unfriendly or 'toxic' community in which players can be singled out and criticised for their poor performance. While *World of Warcraft* allows but does not endorse third party add-ons, *Final Fantasy 14* outright bans players from installing them at all (Although this does not stop players from using *FFLogs* regardless). It could be argued that a player who repeatedly finds themselves at the bottom of performance meters, criticised by their peers, would not want to engage in sustained play of a game that they are not satisfied in. By not finding satisfaction in competence, they're denied satisfaction in relatedness, as players are less willing to invite a player to future PvE events if they have repeatedly shown a lack in competence, without displaying improvement.

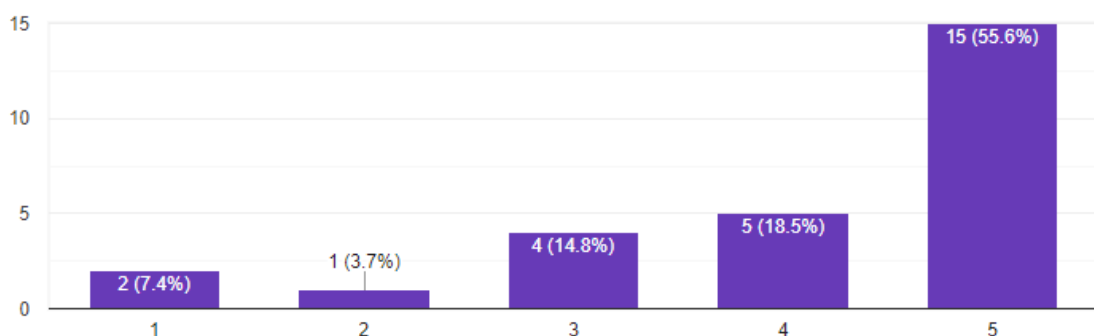
This scenario is discouraging to certain types of players and will inevitably lead to a certain number of players being discouraged from playing the game in question. However, the players that can improve will benefit from the satisfaction of watching their competence develop, as the quantifiable values gathered from performance meters or logging tools increase, as does satisfaction in competence.

Whether the use of performance measuring tools is a boon or a detriment to player retention could be determined by the use of Big Five Inventory analysis (*De Raad, 2000*) of the *World of Warcraft* player base at large. An analysis of quantitative data gathered in 2014 by Anthony Bean and Gary Groth-Marnat regarding typical BFI amongst *World of Warcraft* players, discussed prior in the literature review segment of this study, suggested that PvE player on average scored higher on conscientiousness than PvP and RP oriented players, implying a deeper sense of empathy and understanding of their peers. This would make sense within the confines of a guild or other social circle, where players will be completing different or repeated pieces of PvE content with the same players, where relatedness as a psychological need can be satisfied. As such, an underperforming player is less likely to be ridiculed in a group amongst familiar players they have established a relationship with and may instead be met with offers of help and guidance to improve, furthering a relationship through prosocial autonomy as per relationships motivation theory. This satisfies the psychological needs for relatedness for all players involved and provides an opportunity for the player who may be straggling in competence to improve and observe their improvements through performance measuring tools.

A notable observation in this question is that a third of players surveyed were indifferent to the question; that performance measuring add-ons perhaps have no effect on the social environment of the community, negative or otherwise. This may be because performance measuring add-ons are not the only indication of whether a player is demonstrating poor competence. If this is the case in an MMORPG, then players who would criticize players for underperforming will do so regardless of whether they have an add-on that objectively confirms it or not.

Performance measuring tools should encourage competition amongst members of an instance or raid group.

27 responses



The final question in the survey regarding add-ons and performance measuring tools asked players whether objective data gathered from performance meters or parsing tools such as *WarcraftLogs* should be used to encourage a sense of competition among players in group PvE content. This question pertains to the concept of relationships motivations theory posited by Deci & Ryan (2014), that demonstrations of competence, as well as demonstrations of relatedness, will lead to a higher quality relationship.

Deci & Ryan's theory is reinforced in this survey, as over half of the players surveyed strongly agreed that performance measuring add-ons and tools should encourage a competitive environment, with the rest of the sample also skewing towards agreeing with the statement.

### **3.2.2. Performance Measuring Tools as a First-Party Mechanic**

As established by the survey analysis in the last section, the majority of players regularly use performance measuring tools, and the practice of downloading add-ons that record player performance is often a mandatory requirement imposed by player's that manage guilds and social groups that engage in primarily PvE content. It is also established that data gathered by websites such as *WarcraftLogs* can be used to satisfy the psychological need for an ever-improving competence amongst players. Curiously though, contemporary MMO's, whether speaking about *World of Warcraft* or its competitors, haven't made a point of introducing performance measuring tools as a first-party mechanic.

The primary argument against performance measuring tools, as discussed earlier, is that they have the potential to make for an unpleasant gameplay experience for players who underperform in PvE content. As it currently stands, add-ons like *Details* or *Raider.io* allow one to view performance related data of any player they want, regardless of whether that player has installed the same add-ons. Were these tools developed and thus moderated by a first-party team, however, the option for players to minimise what data their peers see could viably be introduced, allowing less competitive player types to avoid showing, or indeed seeing, data that they do not wish to engage with.

There is also the argument to be made that, regardless of whether performance measuring tools are developed by a first-party or not is irrelevant, as they will inevitably be introduced to the game through third-party development anyway. A solution to this could be to ban add-ons that measure performance outright like the developers of *Final Fantasy 14* have, though given the potential satisfaction of competence and relatedness that performance measuring tools can have as discussed prior, it seems a wasted opportunity to do so. If allowed to, performance measuring tools and data will become an integral part of MMORPG gameplay, to the point where they could be considered an essential mechanic, due to their importance in guild recruitment and the general selection progress of who plays with who. Naturally, a developer of a video game should have control over the core mechanics of their own game, where they can be balanced, altered or otherwise changed to suit the directive vision of the game.

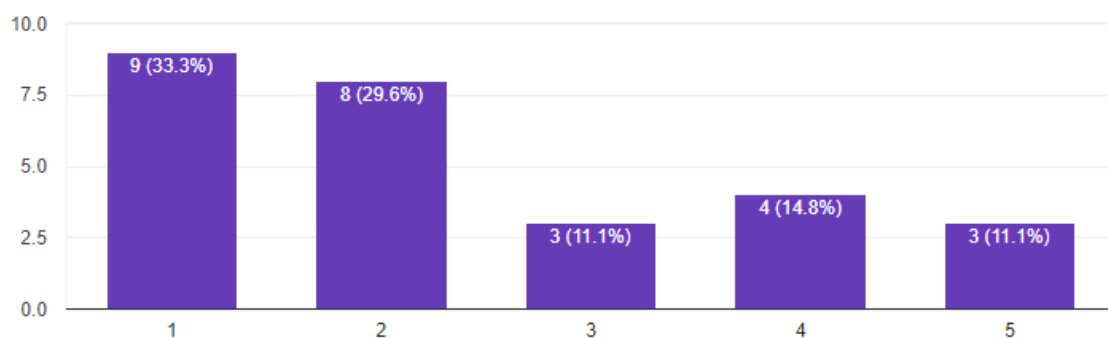


### 3.3. Opinion on Daily and Weekly Content

The final section of the survey concerned the discussion of repeatable, either daily or weekly, content within *World of Warcraft*. The relevancy of repeatable content to the game community is that of player retention, as well as the general attitude of players towards the content available to complete in the current expansion. While daily and weekly content are an effective method of guaranteeing sustained play, they are potentially detrimental to overall enjoyment of the experience. Developers must avoid making repeatable content feel like mandatory work through the inclusion of extrinsic rewards tied to player power, per the concept of cognitive evaluation theory (Deci & Ryan, 1985). Working off of the theory posited by Deci & Ryan, it would be predicted that players will complete repeatable content, although they will feel less inclined to play if they have an obligation to do so.

I make sure I complete daily content in WoW every day.

27 responses

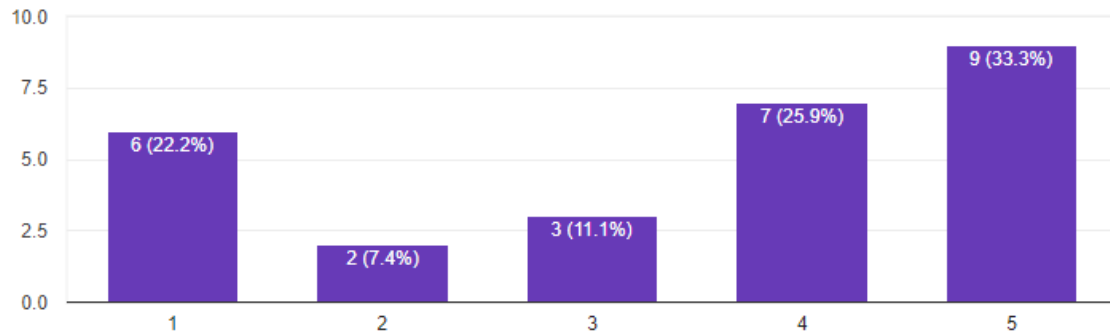


The survey returns an interesting result in regard to the original prediction. A third of players surveyed not that they definitely do not complete repeatable daily content in the current expansion of *World of Warcraft: Shadowlands*. A plausible explanation for this is that the rewards proposed to players for the completion of daily content do not justify the time investment of completing the daily content, whether it is a lack of advancement in player power, or a lack of meaningful aesthetic reward, such as a cosmetic item.

Another possibility is that the completion of repeatable content has failed to internalise in players, as per the organismic integration theory (Deci & Ryan, 1985). Ultimately, if repeatable content does not have a significant enough reward to justify doing, nor is it an easily internalised task, then most players will not be inclined to engage with such content.

I do my weekly Torghast runs mostly every week.

27 responses



*Torghast is a piece of weekly repeatable content and a main feature in the current World of Warcraft expansion, offering upgrades in player power in the form of 'legendary' items, that are generally considered by the community to be essential to completing PvE content*

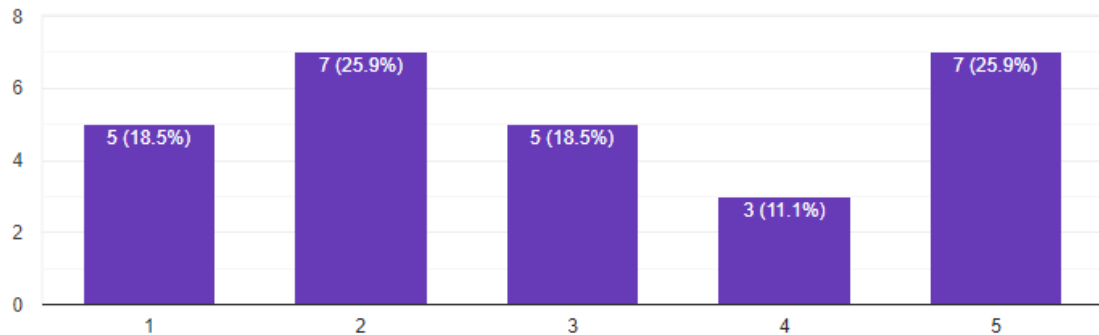
The next question in the survey offers an opposite result to the last one, making it clear that players are perhaps less opposed to the concept of completing weekly repeatable content whenever it is available as opposed to daily content. A simple explanation for this result is that weekly content that is likely to only take a day or two to clear is an easier time investment to commit to than daily content, which must be given attention every day.

It is also plausible, however, that the weekly content offered in *World of Warcraft: Shadowlands* is easier to internalise than the daily content. Torghast, the main weekly feature in the current expansion, tasks players with clearing a section of PvE content in which they receive numerous upgrades to player power exclusive to that session of gameplay, similar to games in the roguelike genre. The novel mechanics and gameplay options in Torghast offer a unique experience to the game, and as such might feel fresher to players whenever it comes time to complete their weekly content. Furthermore, players are given the option to complete Torghast either alone, or as a group, granting an additional layer of autonomy. It was clear in a question earlier in the survey that most players (51.9% of those surveyed) would rather do content as a group if the option is available. Given that daily content is often a single player endeavour, the possibility of the psychological satisfaction of relatedness in *World of Warcraft's* repeatable content is another opportunity for internalisation.

It is still worth noting that just over a fifth of players also do not do their weekly Torghast runs. Ultimately, content will never be able to satisfy all players, and it is on the developers of an MMORPG to gather and analyse qualitative data from players that establish the most common player types and behaviours. Player types can be analysed through observing common behaviours and applying them to Yee's motivations for play in MMORPG's (2007). An analysis of the previous questions discussed suggest that players often skew towards the motivations of teamwork and competition, suggesting that content that provides opportunities to satisfy both will be easier to internalize. Players who may skew toward immersion-based motivations may be less interested in Torghast, which offers little in the way of cosmetic reward. Repeatable content by its very nature will also lose appeal to players who prioritise discovery, as it is clear what to expect after doing the content in question more than once.

Players need to complete the expansions daily and weekly content whenever it's available, or else fall behind the players who do in progression.

27 responses



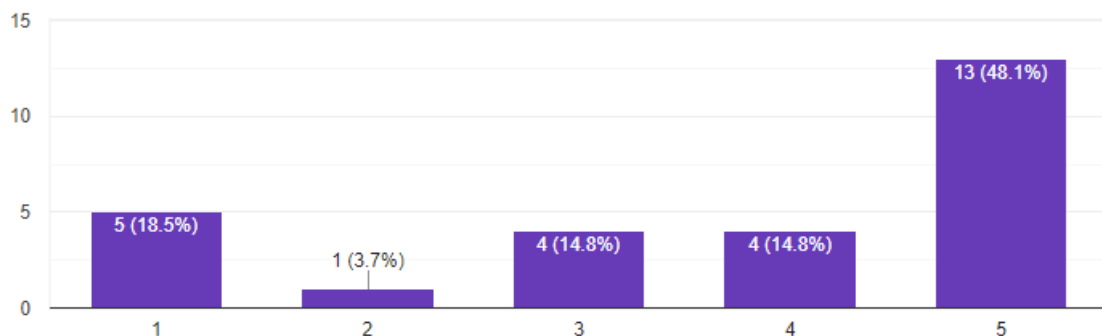
The next question in the survey asked players whether they believe the current repeatable content of *World of Warcraft* is an integral part of player progression, with a scattered variety of results. An unfortunate shortcoming of this question is that the results for the daily and weekly content in *World of Warcraft* are not split. It is clear that players must complete their weekly Torghast runs in order to receive and upgrade their legendary items, and that players prioritise this as suggested by the last question. Daily content, however, may be different, and it is difficult to glean that from the results of this question.

It is interesting that even when factoring in Torghast, however, around a third of players still skewed towards disagreeing with the statement (those surveyed who answered 1 or 2 on the Likert scale). Like in the last question, this could be explained through the presence of different player motivations once again, as players who are less interested in achievement-based motivation will not be as interested in the player progression offered through Torghast. Another possibility is that players were interpreting the importance of all repeatable content as a whole within the context of the question; if Torghast is the only content they deem important, they may disagree with the question as a whole as there is more content that is unimportant to player progression.

As a developer of an MMORPG, it would be ideal the results of this question to err towards disagreement. The basis of self-determination theory is that of intrinsic and extrinsic motivation (Deci & Ryan, 2020). If a player does not feel an extrinsic obligation to complete repeatable content, for example whether that content is integral to completion of higher level PvE content, they will be more likely to internalise the process of completing that content, and as such engage in sustained play.

A feeling of obligation to complete daily and weekly content whenever it is available would (or perhaps does) make me feel less inclined to play.

27 responses



The concept of extrinsic motivation and by extension cognitive evaluation theory is supported by the final question of the survey, in which players were asked whether an obligation to complete repeatable content would discourage sustained play. Little under half of players surveyed agreed that an extrinsic need to complete repeatable content, whether that's a necessary piece of equipment, or an important reputation grind for an in-game faction, would reduce their interest in sustained play.

The objective of repeatable content in MMORPG's from a design perspective is to guarantee player retention and continued play, thus securing a continuous subscription from the player. Should the development team behind an MMORPG choose to implement repeatable content, then it shouldn't be tied to the progression of player power. If a player needs to grind repeatable content in order to achieve sufficient player power to engage in the content they want to do, then that content becomes an unnecessary extrinsic barrier.

Repeatable content could instead benefit from rewarding entirely cosmetic rewards, such as mounts or decorative equipment (called 'transmogrification' items in *World of Warcraft*). Developing a cosmetic based rewards system for repeatable content has the added benefit of appealing more to immersion minded players, who may prioritise customization as per Yee's MMORPG player motivations (2007).

Alternatively, should daily content need to be integral for player progression, it could instead be tied to content that players would already be interested in prior. For example, repeatable activities could task players with completing specific group content, such as dungeons or raids, in game for a bonus incentive. Weaving completion of repeatable content into the content players are most interested in theoretically makes it easier to internalise. However, this method also runs the risk of tying extrinsic benefit to completing dungeon or raid content, making completion of that content less appealing to players.

## 4. Evaluation

### 4.1. Introduction

In this conclusionary portion of the study, the analysis of the last chapter will be evaluated to inform possible design decisions that would enhance community wellness in contemporary MMORPG's. Additionally, the survey itself will be evaluated in a post-mortem review.

### 4.2. The Argument for Matchmaking Mechanics in MMORPG's

It's been established by the results of this survey that players are not only against the idea of matchmaking content, but are actively in favour of it, despite the suggested psychology posited by relationships motivation theory or PENS. Despite the lack of familiarity amongst matchmade players, the mere concept of clearing content alongside other people may be enough to satisfy a feeling of relatedness for many, as well as the emergent gameplay experiences that may come from engaging in content with a group of strangers.

The data gathered suggests that there is still a place for matchmaking content in contemporary MMORPG's. It is worth noting that due to the presence of organised social groups in MMORPG's like guilds or clans, players can still be encouraged through game systems to clear group content as a manually organised team rather than an algorithmically organised one. One way *World of Warcraft* encourages players to find their own groups, for example, is with the Mythic+ system, which cannot be matchmade, and offers greater reward at a higher difficulty than matchmade versions of the same content. Wherever possible, MMORPG's should encourage players to find their groups for content manually rather than through matchmade content, in order to create more opportunities for emergent social gameplay and greater relatedness satisfaction.

### 4.3. Matchmaking in Repeatable Content

The positive attitude towards matchmaking-based content could be a boon when considering repeatable content. As suggested by the survey results, most players would rather play content with other players than alone, and this desire for relatedness extends to repeatable content, as established by player's preference towards completing *World of Warcraft's* Torghast feature as a group.

As discussed earlier, repeatable content can be intertwined with group content that already exists within the game, though this runs the risk of applying extrinsic reward to content players otherwise enjoy. Instead, developers could consider creating unique repeatable group instanced content, akin to the Guildhests system in *Final Fantasy 14* (Square Enix, 2010), in which a group of players complete a short slice of instanced group content in exchange for a currency and/or player progression reward. Doing this reduces the risk of turning the main bulk of group content into extrinsic tasks and offers the potential for instanced repeatable content to be internalised.

### 4.4. Reducing Toxic Behaviour in MMORPG's

In the section of this survey analysis regarding the statement "Performance measuring tools create a toxic social environment in group and raid content", it was noted that toxic players will inevitably find ways to critique players, whether there is objective proof of a lack in competence or not. The argument being then that the inclusion of performance measuring addons as a first party feature will not have an adverse effect on toxic behaviour.

It's also a likely situation that matchmaking strangers with each other, who don't necessarily have an incentive to cater to one another's feelings of relatedness, will not always get along. In spite of this, the survey above has made it clear that the majority of players in *World of Warcraft* are happy to engage in matchmaking-based content regardless.

Ultimately, it is worth noting that toxic players, those who bully others in social games, will always be toxic.; it's impossible to develop human nature out of a social game, and it could be a detriment to the games systems to attempt to do so. Instead of developing with the intent of removing toxic behaviour from an MMORPG in its entirety, developers could instead adopt the philosophy of developing in such a way that the MMORPG does not cater to toxic behaviour. This is where blocking and ignore features become an integral part of the MMORPG's social mechanics.

The argument could be made that the inclusion of performance measuring tools as a first-party mechanic caters to toxic behaviour, as it provides a supposed justification for singling players out. However, given the inevitability of performance measuring tools as a third-party mechanic, and the ability for developers to allow players to moderate their use on an individual basis, it is more likely that first-party performance measuring tools would be a boon against toxic behaviour.

#### **4.5. Survey Post-Mortem**

The survey offered an interesting analysis into the general player perception of *World of Warcraft's* mechanics, and how the results of the survey reflected, or rather opposed, the perceived opinions of said mechanics by the *World of Warcraft* community at large. Most curious are the results regarding matchmaking and raid finder, systems often maligned by certain groups within the community.

An unfortunate shortcoming of the survey is that it does not account for player types, per Yee's work, nor does it gather data regarding each result in regard to the Big Five Inventory. Were this survey to be repeated in the future, data that reflects the general personality of those surveyed would also be gathered, specifically pertaining to BFI, and how it compares to the findings of Bean and Groth-Marnat (2014). This data would lead to a deeper conversation about how different player types respond to matchmade or repeatable content, allowing for the possibility to weigh in differing and majority personality types amongst players into MMORPG game design discussion.

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