

# Language & Video Games: A Cross-Genre Approach

Shu Jie Ting, Department of Psychology, shujieting@utexas  
 Advisors: Mohini Tellakat & James W. Pennebaker, PhD

## Introduction

Online multiplayer games are often thought to promote "toxic" language due to their competitive structure and need for cooperation (Iosup, Kuipers, Martens & Shen, 2015). This exploratory study investigated language patterns of players from different genres and aimed to provide insight on how game characteristics may influence general language use in online communities.

## Research Questions

Comparison between genres for:

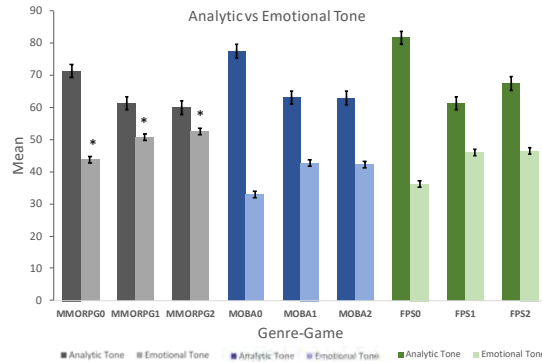
- 1) Analytic vs Emotional Tone
- 2) Ratio of "I" : "He/She"; "We" : "They"
- 3) Top frequency words & profanity used
- 4) Topics in content

## Methods and Materials

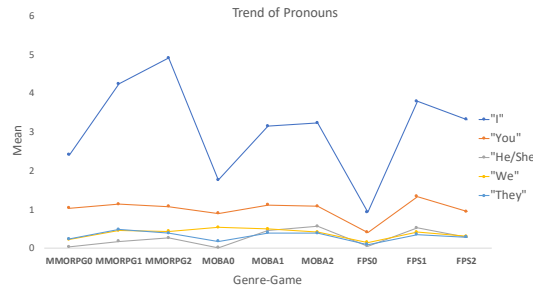
- Dataset: Gaming Subreddits
- Analysis & linguistic software used:
  - SPSS, LIWC2015 & MEH
- Data fail normality tests. thus error bars from paired t-tests and Kruskal-Wallis test used instead of ANOVAs
- Principal component analysis used; varimax rotation used
- Future direction: effect size?

## Takeaway Points

- Though there was sig. dif. between game titles = trends consistently found across genres & game titles:
  - More analytic than emotional words used across all genre-games
  - "I" pronouns most prominently used
- Implications about game characteristics transferring into out-of-game context:
  - "Achievement" as a motivation for play possibly influenced language use of players and/or topic content.
- Strategic planning found across all genres as common topic content— differed slightly:
  - Emphasis on role selection/player recruitment vs analysis to achieve win conditions/professional play
- Overall, surprising lack of toxic language in top frequency words:
  - Implied trigger event in-game may be necessary

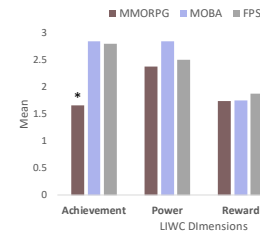


Note. Bar chart describing means and largest error bar from independent t-tests,  $p < 0.001$ . Error bars represent  $M \pm SE * 1.96$ . Kruskal-Wallis test on 'analytic' vs 'emotional' tone supports results from error bars of independent t-tests;  $p < 0.001$ ,  $t = 45-43mil$ ,  $N = \sim 7mil$ ,  $df = 8$ .

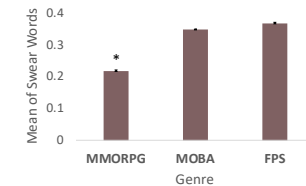


Note. Mean as a function of personal pronouns and genre-game.

Motivation of players & win conditions?



Use of swear words across genres?



Nouns, Adjectives & Action Verbs in MMORPG: A Varimax-Rotated Principal-Component Analysis

	I	II	III	IV
	Role Recruitment	Daily Activities	Characteristics of Dif. Games	Strategic Planning & Role Selecting
Hear	Least	Adventure	Combat	Price
Group	Check*	Get	Box	Casual*
Own	Sub	Search	Facton	Upcoming
Kind	Easy	Term	Quick	Graphic
Suggestion	Finding	Chat	Home	Casual*
Week	Appreciate	Daily	Feature	Action
Enough	Include	Information	Gene	Western
Found	Feedback	Provide	Fantasy	Hardcore*
Us	Greatly	Seeing	Model	Eastern
Put	Encourage	Following	Mechanic	Sandbox
			Rpg	Fill
				Sort
				Zone
				Tabtarget
				Preference
				Check*
				Comment
				Specific
				Order
				Top
				Likely
				Playstyle
				Judgement

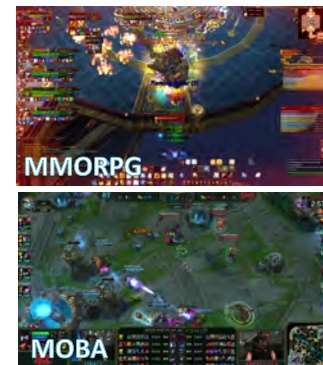
Nouns, Adjective & Action Verbs in MOBA: A Varimax-Rotated Principal-Component Analysis

	I	II	III
	Community World-building	Strategic Planning & Win Conditions	Strategic Planning & Roles
People	Better	Up	Own
They	Interest	Team	Uinque
Legend	Our	Only	Hit
Feel	Thought	Map	Decide
Go	Work	Choose	Each
Help	Please	Experience	PvP
Come	System	Level	Rank
We	World	Best	Balance
Love	Life	Ability	Build
Year	Concept	Item	Damage
			Player
			Match
			Time
			Mater
			Really
			System
			Lane
			Because
			High
			Even
			Buy
			Most
			Little
			Start
			Hate
			Give
			Gold
			Win
			Myself

Nouns, Adjectives & Action Verbs in FPS: A Varimax-Rotated Principal-Component Analysis

	I	II	III	IV	V
	Professional Play & Streaming	Strategic Planning	Discussion of Meta Server Events	Learning Experience	Predictive Discourse
Tournament	Design	Can*	Item	By	Join
Skills	Channel	Map	Health	Server	Similar
Match	Future	Most	Kill	Already	Current
Bad	Mechanic	Weapon	Spawn	End	Below
Level	Pro	Mode	Example	Jump	Night
Competitive	Own	Need	Gun	Show	Detail
Speed	Reason	Take	Armor	Last	Available
Stream	Likely	Better	Control	Show	Event
Thinking	Switch	Point	Reason	Move	Bot
Popular	Myself	However	Pickup	R	Allow
					Shooter
					Lot
					This
					So
					Try
					Into
					IF
					Feel
					Would
					Out
					We
					Thought
					Never
					Learn
					My
					Going
					Interest
					Development

Note. The above graphs list words were the most frequently used nouns, adjectives and action verbs, listed via most frequently used at the top-left to less frequently used at the bottom-right. These tables contain words that were loaded greater than or equal to 0.30 onto a principal components analysis with varimax rotation. \* used to indicate repetition within dataset.



**Abbreviations:**  
 MMORPG = Massively Multiplayer Online Role-Playing Game  
 MOBA = Multiplayer Online Battle Arena  
 FPS = First Person Shooter

