

# Toxic Language and Video Gaming: A Cross-Genre Approach



Shu Jie Ting

Faculty Advisor: James Pennebaker

Graduate Student Advisor: Mohini Tellakat

## Overview:

- 52% of young adults report being cyberbullied, 2014
- Online anonymous, virtual environments
  - Weakened social norms and moral rules
  - Weaker presence of authority
  - More socially unacceptable behaviors emerge = accumulation is “toxicity”
- “Gaming culture” in the community promotes toxicity by disassociating it with RL
- Reflected by language use in addition to behavior
- Study aims to investigate how language use and game genres influences each other

[Allies] Edward Newgate: last hit plz  
[Allies] Dark: HAHA  
[Allies] Blue #KILLAIIPinoys: ez  
[Allies] Dark: 500 GPM  
[Allies] Dark: DID NOT KNOW HOW TO LASTHIT  
[Allies] Dark: REAL IDIOT

To (Allies):

[Allies] Dark: HAHA  
[Allies] "No Pets Allowed!!!": starting pa lang  
[Allies] Edward Newgate: bobo ka kc  
R: DONT WORRY  
[Allies] WAFINS: tae  
[Allies] "No Pets Allowed!!!": you a kid kunkka???

To (Allies):

[Allies] McFLoot: ayan  
[Allies] 11/05/98: ill lane invoker  
[Allies] Edward Newgate: FUCK YOU  
[Allies] Edward Newgate: I GO MID  
[Allies] Edward Newgate: FUCK YOU

To (Allies):

[Allies] Dark: SO MANY RESTARD IN MMR  
[Allies] WAFINS: noob  
R: THAT KUNKKA  
R: IS D WORST INVOKER  
[Allies] Dark: 2 MID  
[Allies] Dark: HAHA

To (Allies):

R: RETARD  
[Allies] Dark: HAHA  
[Allies] "No Pets Allowed!!!": I know this game will lose  
[Allies] WAFINS: gg anchor  
[Allies] Dark: SO MANY RESTARD IN MMR

To (Allies):

[Allies] WAFINS: gg nato  
[Allies] Edward Newgate: nag mid na nga pick ka pa tinker  
: WE DONT HAVE COUR ALSO  
[Allies] Edward Newgate: tanga  
[Allies] WAFINS: tanga kasi

To (Allies):

[Allies] RICK: oi silenser  
[Allies] RICK: can i buy cour  
[Allies] RICK: oi  
[Allies] RICK: can i buy cour silenser?  
[Allies] RICK: ok iam trhow  
[Allies] RICK: fine iam trhow  
[Allies] RICK: ty sir

To (Allies): Type here to chat. Use / for commands.

[Allies] YANSOILEY: 5 TP SB WOW  
BoogieMan: fatata the idiot negro

CHEMBERLU: tabigano  
Edward Newgate: tanga ina  
Edward Newgate: tabigano  
CHEMBERLU: tanginamo pakyu  
[Allies] #Ace <3: putang ina mo gago ka a  
[Allies] #Ace <3: pokpok nanay mo gago

To (Allies):

Unpausing in 1...  
GANg my balls w/ with this wk  
Mr. Dead PoLL (Riki) resumed the game.  
GANg my balls w/. im piss

WuuuYuuu: archon fuckin cancer  
[Allies] LOVE: ]  
LOVE: yeah  
Jhahah: yeah

CHEMBERLU: shut the fuck up am  
[Allies] Crown The Empire: ur peenoise  
Great Sage, Equal of Heaven: you shut up  
CHEMBERLU: STUPID FUCKING NOOB  
Great Sage, Equal of Heaven: just wait ill kill you  
CHEMBERLU: ILL FUCK YOUR MOTHER AM

To (Allies):

MO !!  
Great Sage, Equal of Heaven: TANG INA MO LC MAMATAY SANA MAGULANG  
MO !!  
Great Sage, Equal of Heaven: TANG INA MO LC MAMATAY SANA MAGULANG  
MO !!  
CHEMBERLU: TANIGNAMO TIRAHIN KO PEKPEK NG NANAY MO E  
I don't know what this means

CHEMBERLU: I WILL RAPE YOUR MOMMY AND THEN KILL HER BY EATING HER  
PUSSY AND SUCKING HER LIPS AND FISTING HER ASS BITCH ASS NIGGA  
I: ill suck ur dick

To (Allies):

YOUR MOTHER'S MOM IS A STUPID WHORE ANTI MAGINA.  
FUCK YOU, HOPE YOUR ENTIRE FAMILY DIES. I'LL SMASH  
YOUR MOM'S PEPE

CHEMBERLU: PUTANGINA NG NANAY MO ANTI MAGINA NA BOBO TANGINAKA  
ANA MAMATAY NA LAHAT NG PAMILYA MO PUTANGINAMO DUDURUGIN KO PEPE  
IG NANAY

CHEMBERLU: PUTANGINA NG NANAY MO ANTI MAGINA NA BOBO TANGINAKA  
ANA MAMATAY NA LAHAT NG PAMILYA MO PUTANGINAMO DUDURUGIN KO PEPE  
IG NANAY

[Allies] blue: gg first pick riki  
[Allies] blue: we lose  
[Allies] blue: gg dual invis  
[Allies] blue: ez mmr  
blue: get sentries and youu guys win ez  
Forsaken, Vagrant: why?  
blue: 2 morons both picked invis heroes lol  
[Allies] blue: im afk invokerr  
To (Allies):

[Allies] RRRRRR: gg  
[Allies] RRRRRR: slark  
[Allies] COCKOxWED: fuck you!!  
[Allies] kc7886: pls play as u like dont ask ppl to follow u  
[Allies] COCKOxWED: aiming support why dont you pick idiot !!  
[Allies] COCKOxWED: blamer fucker !!  
[Allies] RRRRRR: 2ksrub

To (Allies): Type here to chat. Use / for commands.

# Background: Types of Toxicity

- Behavioral
  - AFKKing, intentional feeding, griefing, sabotage
  - Scamming, identity theft, hacking
- Language
  - Racist, misogynistic remarks
  - Passive aggressive, negative attitude
  - Profanity
  - Naysaying, trolling
- Will be looking at toxic language
  - Offensive language and verbal abuse judged as toxic in crowdsourcing platforms

# Background: Significance of Toxic Language

- Cyberbullying exacerbated
  - Bystander effect increased due to larger audience
  - Anonymity promotes deindividuation
  - Lack of authority presence + low feeling of responsibility
  - Inversely, “gaming culture” promotes vigilantism in the form of ‘teaching’ unskilled players
- Differing perception of toxicity
  - Crowd-sourcing platform is biased according to community
  - Definition of toxic in different games DIFFER -> carries over to other online venues
  - Less negatively judged in dif communities (trolling and griefing)

(Darley & Latané, 1968). (Martens, Shen, Iosup, & Kuipers, 2016). (Kwak et al., 2015)

# Background: From Game to Community

- Characteristics of players likely to engage in toxic behaviors (ingame)
  - Less encouragement, strategic info sharing
  - More profanity + intentional
  - 38% less chat overall but longer per sentence
  - Directed towards teammates instead of opponents
  - Less likely to follow conventional norms “gg”
  - Less greetings
- Aside from kill-events in game, majority of these characteristics are translatable to other online platforms
- Out-of-game toxic language not explored at all

(Kwak & Blackburn, 2014).

# Background: Different Game Genres

- Overall: online, multiplayer, requires cooperation & social interaction
- MOBA
  - Longer time commitment ~45mins
  - Cannot function if one AFKs
  - Survey shows teamwork seen to be more important than individual skill
- FPS
  - Shorter time commitment ~20mins
  - New player can tag in
- MMORPG
  - Continuous virtual world
  - Win condition -> items acquired in raids & trading
    - Reputation of player & social reciprocity
  - Guilds & communication

(Johnson, Nacke & Wyeth, 2015)

(Yee, Bailenson, Urbanek, Chang & Merget, 2007)

(Ducheneaut, Yee, Nickell &







# Hypothesis:

- Motivations, win conditions, social relatedness, need for cooperation, time commitment, structural characteristic of games
- MOBA > FPS > MMORPG

## Design:

- IV: genre of games + control
- DV: frequency of toxic words, variation in positive/negative emotion words, frequency and variation of word clusters

# Design:

- Subjects:
  - Subreddits, official forums, blogs etc
  - Estimated subject pool of 1k minimum per game community
  - From 3 subgenres + 1 control
    - 8 games: 12mil posts min



# Design: Material & Measures

- Python script used on Reddit and each official website's forums
  - Data scrapping from the API
- Linguistic Inquiry & Word Count
  - Frequency word list of positive/negative emotion words
  - Dictionary from novels, blogs, social platform included
  - To analyze the language used and the frequency of the word in each category
- Meaning Extraction Helper
  - Word representations of differing versions of same words (drink, drinking) clumped
  - Word clusters of meaningful themes
  - The frequency and variety of unique word clusters that are “negative” determines which community is “more toxic” or have more varied perceptions on toxicity

Table 1.

*LIWC2015 Dimensions*

Category	Subcategory
Summary Variables	Analytical Thinking, Clout, Authentic, Emotional Tone
Affect Words	Positive Emotions, Negative Emotions, Anxiety, Anger, Sadness
Social Words	Female Referents, Male Referents
Perceptual Processes	Feeling
Drives and Needs	Affiliation, Achievement, Power, Reward Focus, Risk Focus
Informal Speech	Swear Words, <u>Netspeak</u>



# Data Analysis:

- 1) N-gram analysis - top 1,000 frequency of one word (uni-gram) and two words (bi-gram) combinations
- 2) The variety and intensity of words - word clusters - presence of adjectives (e.g., hard), comparative adjectives (e.g., harder) and superlatives (e.g., hardest), and the variation they have for each subgenres.
- 3) LIWC2015 dimensions
- 4) Exploratory & confirmatory factor analysis to test if data fits hypothesized measurement model

## Expected Results:

- 1) MOBA & FPS higher in frequency and variation of profanity and toxic words in top 1000 n-gram analysis
- 2) Word clusters most varied for MMORPGs and least in toxic language
- 3) MOBA & FPS to rank highest on:
  - Negative Emotions, Anxiety, Anger, Sadness, Affiliation, Achievement, Power, Reward Focus, Risk Focus, and Female Referents.

No effects? Depends on the word freq list of +/- words

Thank you!

QUESTions?