Toxic Language and Video Gaming: A Cross-Genre Approach

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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
Background: Types of Toxicity

- Behavioral
  - AFKing, 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 different communities (trolling and griefing)

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

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<tr>
<th>Category</th>
<th>Subcategory</th>
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<tr>
<td>Summary Variables</td>
<td>Analytical Thinking, Clout, Authentic, Emotional Tone</td>
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<td>Affect Words</td>
<td>Positive Emotions, Negative Emotions, Anxiety, Anger, Sadness</td>
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<td>Informal Speech</td>
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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?