Trash-talking versus Toxicity: An Analysis of /All Chat Exchanges between Southeast Asian Players of an Online Competitive Game

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ABSTRACT

With the advent of online gaming becoming such an inherent part of popular culture, the issue of toxicity, particularly in online competitive games, has never been more relevant. In the /all chat, however, where communication between players of opposing teams is expected to be hostile, there have been debates in community forums about whether that type of communication constitutes as toxicity or another form of aggressive discourse, trash-talking. Because both concepts have never been reconciled together in past studies, this study attempts to develop a preliminary framework using categories and definitions from prior studies of each discourse, for the purpose of analyzing instances of toxicity and trash-talking in the /all chat. Thus, a total of 26 /all chat logs from the Southeast Asian server of the online competitive game *Dota 2* were procured. Using content analysis, the /all chat logs were then coded for toxic and trash-talking instances to determine

how they are manifested among players in the /all chat with key reference to context. It was found that toxic instances occurred rarely in the /all chat and were mostly derived from in-fighting between players of the same team. Trash-talking particularly dominated the /all chat and though the talk appears unpleasant, it is representative of an aggressive discourse with competitive stakes. Finally, new types and categories were also found and documented for each discourse, further contributing to the existing literature of both toxicity and trash-talking.

Keywords: toxicity, trash-talking, /all chat, content analysis, *Dota 2*, Southeast Asia

Introduction

Since the introduction of online competitive games – video games that pit players of one team against another on an online platform – the issue of toxicity has risen in tandem and has become an ever-present dilemma among players (Beres et al., 2021). Toxicity, in this context (as opposed to chemical toxicity), mainly refers to negative or unwanted behaviors that are intended to be hurtful or offensive to their surrounding interactants (Adinolf & Turkay, 2018; Shen et al., 2020). In online team-based competitive games, these typically include verbal abuse (including the use of racial slurs, derogatory epithets, hate speech and death threats), as well as disruptive gameplay within a team (e.g. intentionally being uncooperative to your teammates) (Beres et al., 2021; Hilvert-Bruce & Neill, 2020; Kordyaka et al., 2020). Several researchers have also likened it to other abusive acts such as cyberbullying, griefing and cheating (Kwak & Blackburn, 2014; Neto et al., 2017; Shores et al., 2014), though it is more convenient to think of toxicity as an umbrella term that encompasses all these negative behaviors, as Kou (2020) suggests. Essentially, toxicity has the capacity to render an environment hostile or uncomfortable to its inhabitants and is generally undesired in any context (Turkay et al., 2020).

Though there have been many studies on toxicity in online spaces in general (see Ang et al., 2010; Barlett, 2017; Karan & Šnajder, 2019; Mohan et al., 2017; Qayyum et al., 2018), a major subset of those studies ultimately belongs to gaming contexts (Barr & Copeland-Stewart, 2022; Cook et al., 2019; Kordyaka et al., 2020, 2023; Kou, 2020; Kwak & Blackburn, 2014; Märtens et al., 2015; Neto et al., 2017; Shen et al., 2020). However, out of that subset, the /all chat – a texting channel in online competitive games that allows players of opposing team to openly communicate with one another – has never been the focus of any study, often overshadowed by toxicity issues in the team chat (a texting channel reserved only for players of the same team).

This is understandably so, as the impact of toxic behavior within a team can be so devastating it has been reported to cause serious negative psychological effects (such as anxiety) in players (McLean & Griffiths, 2019), prompting some to quit the game entirely (Barr & Copeland-Stewart, 2022; Kordyaka et al., 2020; Neto et al., 2017; Shores et al., 2014; Turkay et al., 2020). However, with that said, the /all chat rightfully deserves recognition as well since as of late, major game developers have been dedicating attention and resources to it, mainly in an effort to address player complaints about verbal harassment in the /all chat (Valve, 2020, 2022; Van Roon & Lee, 2021). Not only that, but research involving the /all chat is also equally important, if not, arguably more so, as toxic transgressions on the /all chat do not only affect one team, but every player in a game.

Since the /all chat is a communicative platform for competitors, it would be imperative to consider the competitive discourse of trash-talking when conducting research in the /all chat. Trash-talking, defined by Dixon (2007, p. 96), is a North American term for "verbal barbs directed at opponents during a sporting event in order to gain a competitive edge", and can be valuable in the sense that it can be used strategically by players to test or disrupt their opponents' mental fortitude (Duncan, 2018), or even motivate players to outperform their opponents (Yip et al., 2018). Originally a verbal tactic commonly observed in sports such as football, hockey, lacrosse, and wrestling (Conmy et al., 2013; & Kniffin & Palacio, 2018), trash-talking has now also made its way into the realm of online competitive games due to their similarities in team-based settings and competitive nature. Because trash-talking often involves aggressive communication in the form of insults, taunts, belittlement, and self-aggrandizement (Yip et al., 2018), it is easy to understand why players may be quick to associate it with acts of toxicity. After all, both are also prime exemplifications of the notion of impoliteness, where face-damaging acts are purposely committed for various reasons (abusive, in toxicity's case; and perhaps strategic, in the case of trash-talking) (Culpeper & Hardaker, 2017). This, in turn, brings us to the crux of this study: given both of their aggressive natures, how might one then separate trash-talking from toxicity in the /all chat?

To address such a complex question, past studies in both fields will be consulted for definitions and examples that would help separate the two discourses. However, even though many studies have focused on toxicity, few have properly defined the term and contentions remain yet about what actually encapsulates toxic behavior. While there are some working definitions for trash-talking, it has also rarely ever been discussed in tandem with chat logs, let alone the /all chat. Moreover, with the exception of Kaye et al.'s (2022) study (which addresses trash-talking and cyberbullying), no other study exists that discusses both toxicity and trash-talking in the same paradigm. Coupled with the fact that majority of the studies in both fields rely

on player perceptions, often drawing conclusions from surveys, interviews and field observations (see Antony et al., 2023; Meyer, 2020; Kordyaka et al., 2023 for toxicity studies; see Irwin et al., 2021; Kaye et al., 2022; Pujante, 2021 for trash-talking studies), this study, thus, hopes to fill in the research gap by drawing on naturally occurring data such as /all chat logs, and contributing to the existing literature a preliminary framework of definitions for identifying instances of toxicity and trash-talking in the /all chat.

Due to its notoriety as being one of most toxic online gaming regions in the world (Ozoa, 2017; Mustofa, 2018), *Dota 2* in Southeast Asia was selected as the area of investigation in this study with hopes that the data garnered from this region would be rich, diverse and meaningful. In order to understand how toxicity might be different from trash-talking, the information gleaned from how they are manifested in the /all chat can clue us in on the unique contextual settings each discourse takes place in. With the aid of definitions from past studies and contextual clues from the /all chat logs, this study hopes to obtain insights and draw implications on the nebulous relationship between toxicity and trash-talking. Hence, the following research question was used to guide the study's development:

RQ: How are instances of toxicity and trash-talking manifested between Southeast Asian players in the /all chat in *Dota 2*?

Literature Review

Defining Toxicity

Research on toxicity has recently gained traction over the last decade, mostly in tandem with the rise of online gaming as a prevalent hobby among youths today (Koksal, 2019). Online gaming, especially where online competitive games are concerned, often goes hand in hand with toxicity. Driven by the prospects of victory (usually in the form of in-game rewards), when players are faced with challenging scenarios or the possible onset of defeat, they often resort to negative communicative behaviors as a way to vent their frustrations, whether it means explicitly blaming other players or simply verbally attacking them out of pure contempt. As of late, these behaviors have been generally labeled as 'toxic' in nature by the gaming community, despite whether or not they actually conform to toxicity. This is because 'toxicity' is such a popular and widespread term within gaming culture that the concept's own integrity has somewhat been diluted to an extent that now, every seemingly negative behavior is readily classified as toxic by the community. However, the gaming community is not solely responsible for the misuse and generalizations of the term, as even in most of previous literature, what exactly entails a communicative behavior to be toxic and what

specific characteristics surround it have at best, only been vaguely defined. This section will thus review that past literature in hopes of providing a functional definition for toxicity (with the aid of established categories and examples in past studies) for the context of this study (i.e. the /all chat).

As rampant toxicity can prove to be a contentious issue not only in the gaming realm but also in non-gaming contexts, it comes with no surprise that most existing literature on toxicity studies stems from computer science journals (see Kwak & Blackburn, 2014; Märtens et al., 2015; Neto et al., 2017; Shen et al., 2020 for gaming studies; Mohan et al., 2017; Qayyum et al., 2018; Karan & Šnajder, 2019 for non-gaming studies), borne of a conscious effort to curb the pervasiveness of toxicity within the online community as a whole. This is primarily accomplished by finding efficient and accurate ways to identify toxic instances in online games, so that appropriate punishments (such as temporary and permanent bans) can be administered swiftly to guilty players, thereby mitigating the overall negative player experience for other players. However, because the main focus of these studies lies in the technicality of their identification systems and techniques rather than the linguistic nature of toxicity, toxicity as a term or discourse has largely been discussed on a surface level, with only some offering useful insights into its parameters of usage. For instance, most studies tend to classify toxicity as otherwise also consisting of the following actions: cyberbullying, online harassment, hate speech (includes racism and sexism), verbal abuse, cheating and griefing (intentionally disrupting group harmony through communication) (Kwak & Blackburn, 2014; Mohan et al., 2017; Neto et al., 2017; Qayyum et al., 2018; Karan & Šnajder, 2019).

Since the current study is concerned with /all chat logs, several of those terms needed to be reexamined and reconsidered for applicability. For example, according to Kordyaka et al. (2022), cyberbullying does not take place in matches of online competitive games because the act itself is meant to be long-term and usually extends beyond the game to other forms of online contact in an attempt to harass a player repeatedly and over time (i.e. via emails and social media). In contrast, toxicity is supposedly more temporal (i.e. ends when the matches end) and is often derived from players' attempts to cope with their frustration with the game. Hence, while cyberbullying is certainly a toxic act, it was not included in the analysis of this study as this study only focused on player interactions during the game, not outside of the game. Cheating is also another category of toxicity that was not considered in this study's analysis, as it concerns the act of abusing software to grant a player an unfair advantage over other players by breaking the game's rules and mechanics (Kou, 2020), e.g. seeing through walls or seeing information limited only to the opposing team. Video replays would be required to detect or identify such behavior and since they were not available, cheating, albeit

toxic, was excluded from the categories of toxicity that would soon be discussed.

To that end, one of the most common examples of toxicity is *flaming* or the act of sending offensive messages in chat or voice chat to harass a particular player (Kordyaka et al., 2023; Kowert, 2020; Suler, 2004). This can include the use of hostile expressions, aggressive insults, threats and other negative comments by one player against another for various reasons. Most of the time, it is used to berate a player for not performing up to the skill level as expected and is usually derived from frustration in playing the game. Flaming tends to manifest within the team and in which case, it negatively affects the social dynamics and cooperative efforts of the team (Meyer, 2020). Then, akin to an argument seeking a wider audience, it tends to spill out into the /all chat, essentially involving everyone else in the altercations as well (Cook et al., 2019).

Another common form of toxicity is *griefing*, which according to Foo and Koivisto (2004), often takes on the form of disruptive gameplay and consists of harassment (causing emotional distress by insulting others), power imposition (taking advantage of superior gaming knowledge to impose power over others), scamming (fraudulent and deceitful behavior) and greed play (going against implicit rules of the game in order maximize one's own benefits). However, since gameplay will not be analyzed in this study, utterances that delineate or encourage similar behavior will be considered instead. For instance, in a team-versus-team context, this would include utterances that seek to undermine or sabotage the gaming experience of one's teammates by revealing crucial information to the opposing team, otherwise known as leaking information (Kou, 2020). Hence, from this, any piece of information sent in the /all chat that is interpreted as being counter-active to a player's team can be identified as an act of griefing.

Finally, the most definitive form of toxicity is the use of *hate speech*, where a player's race, gender, homosexuality, disabilities, or religion is insulted, or where a player receives serious threats and ill wishes (Meyer, 2020). This is an issue that is becoming more and more serious today as the world moves towards equality and open-mindedness. While flaming is usually motivated by a player's discontent with losing or their teammates' skills, hate speech takes it further by linking players' shortcomings to their ethnicities, shared beliefs and cultural membership (mostly marked by the use of highly inappropriate slurs such as the 'n-word' for people of African descent). However, according to player reports in interviews, the extent of hate speech does not end there and apparently also includes the discursive act of evoking serious harm, delineated in two categories: *threats* and *ill wishes* (Meyer, 2020). An overall summary of the toxic categories that will be used in the study is shown below in Table 1.

Table 1

Tentative Categories of Toxic Behavior in the /All Chat

Categories	Examples
Flaming - happens most frequently between teammates - the altercations of a player flaming a teammate tend to spill out into the /all chat	"garbage"; "stupid noob"; "uninstall (the game)"; "play (with) bots"; "f***ing idiot"; "shut the f*** up"
Griefing - intentionally working against or sabotaging a teammate's gaming experience through uncooperative messages in the /all chat	No explicit examples of griefing through chat could be found in past studies at this time. However, there is one known act of griefing that is committed through the /all chat: *leaking information.* Another characteristic that can be used to identify griefing in chat is the exhibition of *low communion* (a disregard for harmony in interactions with teammates) in a player.

	Racism	*Religion-based discrimination*
	Using the "n-word"; calling someone with an accent a "terrorist"; mocking a person's race or accent	Telling a player to "start the ovens and start gassing Jews"; referencing Islamic phrases when using bombs in-game
Hate speech - insulting a player's race, gender, homosexuality, disabilities, or religion, and delivering threats and ill wishes upon them	*Sexism* Asking female players to "stay in the kitchen"; calling a female player a "bitch"; asking for nude pictures from the female player	*Serious Threats* Threatening to "f***" a player "to death"; threatening to kill a player; threatening to "f***" a player's mother "up"
	Homophobia Calling someone who admitted to being bisexual a "fag"; using the word "faggot" as an insult;	*Ill wishes* Hoping that a player gets "cancer"; telling players "I hope you die" or "I wish you get cancer"; telling a

telling a player "You're acting girly again"	player to kill himself (commit suicide) because he won a game

Ableism

Calling a teammate "f***ing retarded" for not understanding an in-game mechanic; accusing a player of having autism; "He's f***ing retarded"

Note: Flaming examples were taken from Kwak & Blackburn (2015) & Märtens et al. (2015); griefing characteristics were taken from Cook et al. (2019), Kou (2020) & Achterbosch et al., (2017); and hate speech examples were taken from Märtens et al. (2015), Meyer (2020) & Pujante (2021).

Defining Trash-talking

Different communities or parts of a community may identify or define toxic behavior in different ways depending on the situation where assumed toxic behavior takes place (Shores et al., 2014). Trash-talking is an example of one discourse that tends to fall into this trap of being lumped together with toxic behavior. Originally described as verbal insults accompanied by acts of physical intimidation (Eveslage & Delaney, 1998), the definition of trash-talking has since been extended to include motives to distract (Rainey & Granito, 2010), to intimidate (Trammel et al., 2017), to taunt in celebration (Kershnar, 2015) or to demoralize an opponent (Kniffin & Palacio, 2018). These insults commonly associate poor skills with poor intellect (Pujante, 2021) and are typically designed to throw the opponents off their game (Kniffin & Palacio, 2018). More interestingly, recent developments in research suggest that they can also manifest in more nuanced, indirect forms such as *sarcasm* (Irwin et al., 2021) and *rhetorical questions* (Pujante, 2021).

Amid throwing insults at an opponent, trash-talking can also include boastful comments about the self as a form of self-empowerment (Yip et al., 2018). This is otherwise characterized as *self-aggrandizement* and according to players, boastful remarks are a way of affirming one's self and abilities in the game (Pujante, 2021). Most of self-aggrandizement is performed through self-proclamations that come as a result of a heightened self-worth. For instance, Former NFL player Randy Moss was once famously quoted saying, "Now that I'm older, I do think I'm the greatest receiver to ever do it". When confronted about his disappointing statistics for the 2010 season, he nonetheless responds, "I don't really live on numbers. I really live on impact and what you're able to do out on the field. I really think I'm the greatest

receiver to ever play this game" (ESPN News Services, 2013). One unique aspect of self-aggrandizement is that though self-proclamations do not address anyone in particular, they are implicating statements to individuals involved in the community or practice. As a result, it came as no surprise when all-time record holder NFL analyst Jerry Rice remarked, "Randy is still trying to win his first [Super Bowl]… I was very surprised that he said he's the best receiver to ever play the game. I leave that up to my fans to make that statement" (ESPN News Services, 2013). Because self-aggrandizing statements draw implications on the parties involved – proclaiming that you are the best automatically presumes everyone else is worse off – it is trash-talking in an albeit, indirect way.

Trash-talking can also sometimes be perceived as fun and entertaining, especially among friends. This is otherwise known as *banter*, razzing, friendly teasing and 'poking fun', and is usually a bonding experience that involves constructive criticisms of one's teammates and is used to boost morale (Kaye et al., 2022). In modern day esports, banter plays a huge role among gaming professionals in social media, pre-match interviews, and during the game. For instance, to CS:GO professional players, trash-talking is regarded as a sign of mutual respect between players, a mutual promise that both players will play their best in their upcoming match (Irwin et al., 2021). Essentially, trash-talking is rarely taken seriously between professional players who are familiar with one another, even if the trash talk occurs in public settings (such as on social media and in interviews). What is interesting is that banter is apparently not limited to friends and figures who are familiar with each other within a social circle. Banter can also manifest between individuals who belong to the same cultural group and understand the cultural norms, of whom would otherwise only be strangers to each other. In other words, players who are used to playing under such circumstances eventually develop an understanding of the benign nature behind certain trash-talking instances and are able to interpret it as fun, humorous and creative (Pujante, 2021). However, due to the aggressive nature of trash-talking, this is not always true for every player but it certainly can happen. With the inclusion of banter, the three main types of trash-talking can be summarized as follows in Table 2 below.

Table 2

Tentative Types of Trash-talking in the /All Chat

Types	Examples
Ridicule/intimidation	
a) Taunts	

	- the act of flaunting one's success to an opponent or "kicking" an opponent "while he is down"	Former NFL player Kam Chancellor to a player he successfully tackled: (shouts) "Goddamn! Beautiful day, baby! Isn't today a beautiful day? Don't you think today's a beautiful f***ing day?
b)	*Provocations* - the act of unsettling an opponent with insults to annoy or anger them	Former NFL player Bill Bradley to Patrick Ewing: "I saw your SATs. You're a dumb***. Didn't they give you 400 points just for signing your name?"
c)	*Sarcasm* - ironic expressions used to insult or mock an opponent	Saying "Kalisto nimo huh" (Tagalog: "You're damn good, huh?") to an opponent who is losing the game.
d)	*Rhetorical questions* - questions directed to an opponent in an insulting manner that do not necessarily elicit responses	Asking "Maato ka pa?" (Tagalog: "Are you still gonna fight?") when the opponent is clearly losing
	Self-aggrandizement - self-centered comments that boast one's self as a way of affirming one's abilities in the game	Former NFL player Randy Moss: "Now that I'm older, I do think I'm the greatest receiver to ever do it. […] I don't really live on numbers. I really live on impact and what you're able to do out on the field. I really think I'm the greatest receiver to ever play this game"
	Light-hearted banter - a friendly style of trash talk where players tease each other and do not take offense to the insults thrown	Filipino players saying "Pangit ka" (Tagalog: "You're ugly") to an opponent as a light-hearted insult

Note: Examples of taunts and provocations were taken from Kershnar (2015); examples of sarcasm, rhetorical questions and light-hearted banter were taken from Pujante (2021); and self-aggrandizement example was taken from ESPN News Services (2013).

Methodology

Data Collection

As mentioned previously, the /all chat logs in this study were collected from freelance databases providing publicly available data for the competitive title, *Dota 2*. Two statistical websites were used to round up the necessary /all chat logs for this study. The first website, DotaBuff (https://www.dotabuff.com/) automatically tracks in-game data – including matches played across every region, player statistics and other game-related

statistics – and comes with a comprehensive search engine that allows the user to find and sort matches by the region and skill bracket in which they were played. From here, 25 unique 'Match IDs' of matches played in the Southeast Asian region were attained from each of Dotabuff's three pre-designated skill brackets: 'Normal', 'High' and 'Very High' for a fair representation of each skill level; numbering 75 'Match IDs' in total. These 'Match IDs' were then used in combination with a search engine from a second website, OpenDota (https://www.opendota.com/) to acquire more detailed information of each match, such as player performances, combat logs, AI-written summaries (called 'Stories'), and of course, /all chat logs of each match. Once an /all chat log is acquired through OpenDota, a full transcript of the players' conversation can be found complete with designated usernames (where applicable; anonymous if not) and timestamps (see example below).

Figure 1

A Transcript of an /All Chat Log Acquired from OpenDota
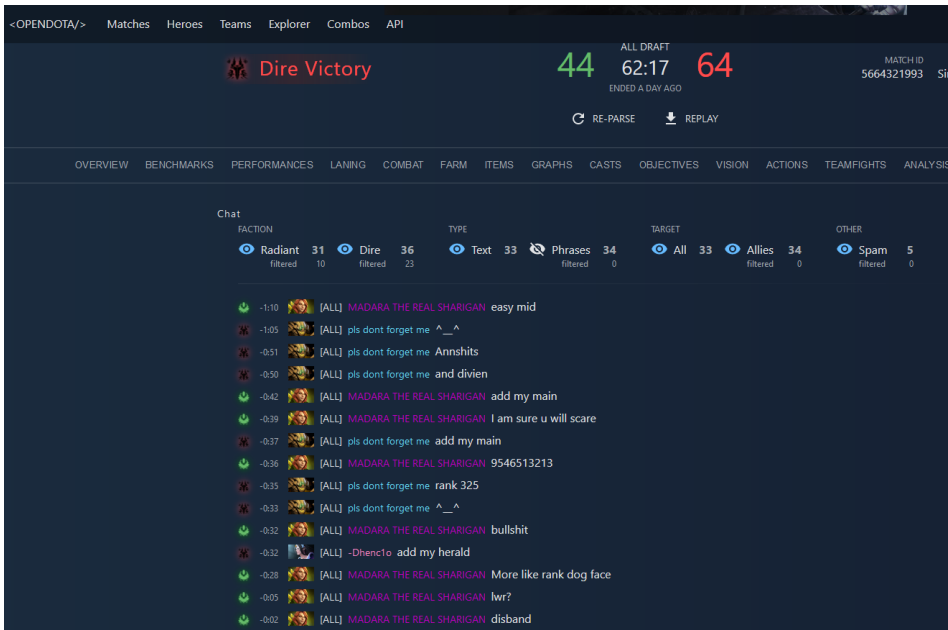
Data Preparation

A total of 75 /all chat logs were collected throughout the course of this study between April and May 2021. However, not all /all chat logs provided meaningful exchanges between players. In fact, some logs contained only a few utterances (units of conversation separated by pressing 'Enter' on the keyboard), i.e. less than 10 units in total. Hence, in order to elicit a meaningful analysis, the logs were run through a group of selection criteria that was formed to address a variety of issues that may arise from the analysis. The criteria would ensure that each log analyzed was not sparse in exchanges, and contained at least one suspected instance of harmful, offensive content (an aspect for which toxicity and trash-talking share a propensity) according to Ivory et al.'s (2017) typology of harsh words and deeds, which marks profanities, slurs and verbally aggressive acts (e.g. insults, threats and accusations) as potentially abusive and problematic content. The criteria would also address logs and utterances found in non-English languages, mandating translations for such cases.

According to the selection criteria, the /all chat logs selected for analysis would all adhere to the following qualities:

(i)   must each contain at least TEN utterances produced by players on either team;

(ii)   must each contain at least ONE suspected instance of harmful, offensive content according to Ivory et al.'s (2017) typology; and

(iii)   may contain utterances produced in non-English languages, however, translations must be provided in each case by native speakers of those languages.

Out of 75 /all chat logs, 26 logs qualified for analysis through the criteria given; 5 from the 'Normal' skill bracket, 10 from the 'High' skill bracket, and 11 from the 'Very High' skill bracket. Since these /all chat logs do not contain typical day-to-day conversations and are instead heavily contextualized within not only the game of *Dota 2*, but also its community and its inside references, the logs needed to be further prepared for easy interpretation. The Linguistic Data Consortium's (LDC) Annotation Guidelines for Chat and Text Messaging Data provide (2018) provide some serviceable conventions for this purpose and were suitable for this study as they are specifically made for chat and text messaging data.

Following LDC's guidelines (2018), firstly, all player usernames and aliases remained anonymized, and players were only referred to by the names of the characters or 'heroes' they were playing. Players' teams were designated as either Radiant or Dire, the only two factions available in *Dota 2* and to which players are randomly assigned in every match. Since the frequency at which players interacted with one another in the /all chat was sporadic, time stamps were included for easy identification and to track down possible paired responses. All of the players' sent messages or utterances were hand-coded closely in reference to these variables, alongside 'notes' that also provided translations for non-English content and explained any typing errors, in-game slang or jargon that were used, and references specific to the game, culture, memes and esports of *Dota 2*. The specific 'situations' in which these utterances were made by the players were also provided through the aid of combat logs and AI-generated 'Stories' from OpenDota. Through the latter, major events such as player kills and teamfight victories could be derived from each match that would inform us of the context behind each utterance. Lastly, all of the players' utterances were not altered or adjusted in any way or form and were analyzed as they were, completely verbatim, retaining all spelling and grammatical errors, acronyms and emoticons so as to retain the 'naturalness' of their intended messages (Hyland et al., 2021). In order to present all of these required information in an /all chat log clearly, Microsoft Excel was used to record and code each log, and subsequently, all excerpts were presented in Excel format as well.

Figure 2

An Example of a Coded /All Chat Log Stored in an Excel Sheet

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
0:18	Dire	Weaver	ALL	(Voiceline) 唉唉唉！唉？唉 …	Mandarin: Ah ah ah! Ah? Ah...	Game start	Inconclusive
0:23	Radiant	Riki	ALL	(Voiceline) Это ГГ	Russian: This is GG	Game start	Inconclusive
11:30	Dire	Shadow Sha	ALL	END	-	Radiant won a teamfight where 4 heroes on Dire were wiped out.	Premature Resignation
16:37	Dire	Weaver	ALL	(Voiceline) Это ГГ	Russian: This is GG	Dire won a teamfight where 5 heroes on Radiant were wiped out.	TT - Taunt
16:37	Dire	Weaver	ALL	(Voiceline) Это ГГ	Russian: This is GG	"	TT - Taunt
17:09	Dire	Weaver	ALL	stfu necro	"stfu" = Shut the f*** up	After Dire won the teamfight	TT - Provocation
17:11	Dire	Weaver	ALL	Faack	"faack" = f***	"	TT - Provocation (cont.)
17:20	Radiant	Necrophos	ALL	??	-	"	TT - Rhetorical Question

Note: T – Toxic instance followed by its category
          TT – Trash-talking instance followed by its type

Data Analysis

A content analysis was performed for each /all chat log to determine whether the potentially harmful or offensive content found in each log was toxic or part of the trash-talking discourse. Utterances or typed messages, each separated by pressing 'Enter' on the keyboard (Park et al., 2015), served as the units of analysis and were cross-examined against a coding scheme based on the tentative categories of toxic behavior and types of trash-talking previously developed in earlier sections. Each utterance in each /all chat log was hand-coded based on the surrounding context of the conversation (its participants and the 'situation' that was taking place according to OpenDota's combat logs and 'Stories') to see if it fit either discourse. Then, it was assigned an appropriate type or category depending on what is being inferred from the conversation. This would give us an idea of the toxic and trash-talking instances that are manifested in the /all chat of *Dota 2* matches in Southeast Asia, answering the RQ in the process.

An interactive coding process was also adopted for this analysis since the pre-defined categories are not finite, and more categories and types could arise from further inspection. A preliminary analysis was first carried out, where various issues were encountered but resolved quickly. First, utterances that surfaced randomly with little to no context inferred from the combat logs or 'Stories' from OpenDota were regarded as 'Inconclusive' due to insufficient evidence. Second, utterances that were neither toxic nor related to trash-talking, that were part of general conversations (e.g., discussing the game's mechanics or players' in-game decisions) were regarded as 'Neutral'. Lastly, utterances that were seemingly toxic and relevant to trash-talking but did not fit the pre-determined framework, were assigned separate codes and later added to the framework after it had been revised and refined. These new

codes are discussed later in the 'Results & Discussion' section. To ensure inter-coder reliability, a portion of the data (25%) was individually coded by a veteran player of *Dota 2* with more than 10 years of experience playing in the Southeast Asian server and who has a high proficiency in the English language. Two inter-coding processes were yielded. First, there were disagreements and inconsistencies in the judgments, to which back-and-forth deliberations were made until these contradictions were fully resolved. Second, the codes were reviewed a week later to ensure that the agreements had remained consistent. The inter-coder reliability was then calculated using Cohen's kappa coefficient, and resulted in a value of 0.95, indicating high reliability.

Results & Discussion

Toxic Instances in the /All Chat

As identified previously, there are three main categories of toxic behavior that can take place in the /all chat: flaming, griefing and hate speech. However, during the preliminary analysis, further sub-categories were discovered for each category of toxic behavior, except hate speech. Table 3 below tabulates the total number of instances belonging to each of these sub-categories that were encountered in the 26 /all chat logs that were analyzed. Since no prior framework exists for identifying toxic instances in the /all chat, the framework was then refined to include these new sub-categories (see Table 4 below for a full list). In the ensuing paragraphs, toxic instances along with their frequencies and how they are manifested in the /all chat by Southeast Asian players of *Dota 2* are discussed.

Table 3

Total Number of Encountered Toxic Instances in the /All Chat Logs (Ranked in Order of Frequency per Category)

Category	Sub-category	Frequency (instances)	Frequency (%)
Flaming	Direct	30	22.4
	Aggressive Mockery	20	14.9
	Rant	9	6.7
Griefing	Collusion	18	13.4
	Premature Resignation	9	6.7
	Sabotage	2	1.5
Hate Speech	Religion-based Discrimination	34	25.4
	Racism	9	6.7
	Ill Wishes	2	1.5
	Ableism	1	0.8
	Sexism	0	0
	Homophobia	0	0
	Serious Threats	0	0
	Total	134	100

Table 4

Refined Categories of Toxic Behavior in the /All Chat

Categories	Sub-categories	Examples
	Direct - the most basic form of flaming where insults are thrown at a player for playing badly	Excerpt 1
Flaming	*Rant* - insults that take on a longer, more structured form	Excerpt 2
	Aggressive mockery - insults that are designed to make fun of or diminish a player	Excerpt 3
Griefing	*Premature resignation*	Excerpt 4

	- surrendering or refusing to play when the game has not reached its conclusion or when one's teammates are still playing to win	
	Collusion - colluding with players of an opposing team and revealing valuable information to them in order to undermine one's teammates	
	Sabotage - actively sabotaging the gaming experience of one's teammates and communicating it at the same time	
Hate speech	*Racism*	Excerpt 5
	Sexism	N/A
	Homophobia	N/A
	Ableism	N/A
	Religion-based discrimination	Excerpt 6
	Serious threats	N/A
	Ill wishes	N/A

Flaming in the /All Chat

Flaming was the most common instance of toxicity found in the /all chat logs, usually originating between teammates who are supposed to be working together. One player would grow dissatisfied with a teammate's performance, and whether or not it actually affected their odds of winning, would take their grievances to the /all chat out of anger and frustration and for all to read. For instance, in Excerpt 1 below, after Axe loses a teamfight with four of his teammates eliminated, he immediately takes to the /all chat to flame his teammate, Riki, with Tagalog insults twice subsequently. Insulting a player's intelligence is quite common as it is often equated to insulting a player's gaming skill. At 27:06, Axe also calls Riki a "son of a whore" to end his outburst.

Excerpt 1

Direct Flaming

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
26:56	Radiant	Razor	ALL	(Voiceline) The next level play!	-	Radiant and Dire clash in a teamfight.	TT - Taunt
26:58	Dire	Axe	ALL	tanga mo trki	Tagalog: You're stupid, Riki [Riki = Axe's teammate in this game]	Radiant wins the teamfight with 4 heroes dead on Dire.	T - Flaming Teammate
27:06	Dire	Axe	ALL	tangina mo riki	Tagalog: Son of a whore Riki	"	T - Flaming Teammate (cont.)
27:18	Radiant	Razor	ALL	shut up axe	-	Radiant destroyed Dire's Mid Tier 2 Tower.	Response to T - Insult

Flaming instances are often aggressive from the get-go with skill-related insults such as "noob" or "trash" to more profane ones such as "f***ing stupid" and "tangina mo" (a common Tagalog insult meaning "son of a whore"). However, from the /all chat logs in this study, it was found that flaming can also manifest in a longer form of discursive act known as a rant. According to Lange (2014), a rant is comprised of emotionally-charged messages, typically borne out of anger and frustration, that seek to criticize the behavior or performance of others. In Excerpt 2 below, after losing a teamfight with two of his teammates wiped out, Lina flames his teammate, Vengeful Spirit, who is playing as "pos 5" (short for Position 5, a supporting role). Afterwards, at 22:50, Lina proceeds to rant about the difficulty of winning a game in the skill bracket he is in, alluding to the teammates he gets who are always playing greedily, i.e. farming on the offlane and not taking fights early. Lifestealer is one such player on Lina's team who has picked an unorthodox hero for the offlane position and is likely the indirect subject of his criticism in his rant.

Excerpt 2

Flaming (Rant)

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
22:47	Dire	Lina	ALL	noob pos 55	"pos 5" = referring to his teammate, Vengeful Spirit who is playing as 'Position 5', a supporting role	Radiant recently won a teamfight with 2 heroes dead on Dire.	T - Flaming Teammate
22:50	Dire	Lina	ALL	how to win	-	"	T - Flaming (Rant)
22:57	Dire	Lina	ALL	this fucking bracket	"bracket" = skill bracket	"	T - Flaming (Rant)
23:01	Dire	Lina	ALL	always want offlane farmer	One of his teammates picked Lifestealer, a farming hero, to play on the offlane	"	T - Flaming (Rant)

Flaming was found to also manifest in comments that "make fun of" or figuratively diminish players, typically in response to a mistake or slip-up (Haugh, 2010). This is known as aggressive mockery. Generally, mockery can

be perceived as playful and harmless, especially among friends. However, in the contexts they are found in this study, where teammates are being ostracized openly in the /all chat, they are usually aggressive and unhelpful to them. Take Excerpt 3 below for instance: after losing crucial structures in his base, Mirana begins a slight monologue where he explains to everyone in the /all chat that his teammate, Vengeful Spirit, is actually not from the same skill bracket he is in. At 23:53, he asks if there is a rank that goes below Herald, which is already the lowest rank you can achieve in *Dota 2*, and implies that that is where Vengeful Spirit belongs. Finally, at 24:20, where Vengeful Spirit has already accumulated 15 deaths by this point, Mirana further mocks Vengeful Spirit and tells him to go for "16 deaths" before the game ends. Coming from a fellow teammate, these actions are highly insubordinate and humiliating for Vengeful Spirit, especially since they are being said in the /all chat.

Excerpt 3

Aggressive Mockery

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
23:41	Dire	Mirana	ALL	Actually	-	Radiant destroyed Dire's Top Barracks.	T - Flaming (Mockery)
23:42	Radiant	Tusk	ALL	ayos ba roamer ko mga idol?	Tagalog: Am I doing good as a roamer, idol? [Roamer = A supporting role in the game] [Idol = A street slang to refer to friends/playmates]	"	TT - Self-aggrandization
23:45	Dire	Mirana	ALL	this VS not from this Bracket	"VS" = Vengeful Spirit, a teammate "Bracket" = skill bracket	"	T - Flaming (Mockery)
23:46	Dire	Ursa	ALL	lmao	"lmao" = laugh my a** off	"	Response to T - Laughter
23:53	Dire	Mirana	ALL	WHat is below Herald?	"Herald" = the lowest rank in the game	"	T - Flaming (Mockery)
24:20	Dire	Mirana	ALL	go 16 deaths	Referring to Vengeful Spirit who has accrued 15 deaths at this point.	Radiant destroyed Dire's Tier 4 Towers.	T - Flaming (Mockery)

Griefing in the /All Chat

Several instances of griefing were found in the /all chat logs of this study. Using griefing's core definition of intentionally ruining a player's gaming experience for personal reasons (Cook et al., 2019; Achterbosch et al., 2017), three types of griefing in the /all chat were found. The first is "Premature Resignation", where a player publicly announces their surrender ahead of the game's conclusion and invites opponents to "end" the game early for them. In some cases, this is used as a ruse to lure opponents into a false sense of security, where they might think victory is certain, only for the announcer to continue playing the game and make a comeback with their

team. However, in the contexts they are found in this study, they are almost always serious, and may affect their teammates who are still trying to win the game. At times, they would even divulge information to the opponents so as to help them "end" the game faster. This leads directly to the next act of griefing commonly found in these chat logs, "Collusion". Players who are not interested in playing or trying to win the game anymore may resort to colluding valuable information with the enemy team that would otherwise be beneficial to their own team. They may direct or assist their opponents by revealing their defensive positions, key structures to destroy and the most optimal path to winning in the map. Again, players who may still be trying to win the game would now face an even steeper uphill battle, thanks to these actions. Lastly, the trifecta of griefing instances would not be complete without "Sabotage". Though uncommon in the data, this is possibly the most despicable act a player can commit to their own teammates, that is, by actively preventing their team from winning and communicating those actions in the /all chat at the same time.

Excerpt 4

Griefing (All Types)

21:06	Dire	Mirana	ALL	pro af this vs	"pro" = professional, i.e. good at the game "af" = as f***, a degree of expression	Radiant won a teamfight with 4 heroes dead (including Vengeful Spirit) on Dire.	T - Flaming (Mockery)
21:20	Dire	Lina	ALL	just end	"end" = end/finish the game, a sign of surrender	"	Resignation
21:39	Dire	Mirana	ALL	end it	-	Radiant destroyed Dire's Mid Barracks.	Resignation
22:04	Dire	Mirana	ALL	ALL report VS please	"VS" = Vengeful Spirit, a teammate	"	T - Call for Condemnation
22:09	Dire	Mirana	ALL	fucking retarded af	-	"	T - Flaming Teammate T - Hate Speech (Ableism)
22:11	Dire	Lina	ALL	just end	-	"	T - Griefing (Premature Resignation)
22:13	Dire	Lina	ALL	go t4	"t4" = Tier 4 Towers, the last line of defense before the Ancient	"	T - Griefing (Collusion)
22:19	Dire	Lina	ALL	I will not def	"def" = defend	"	T - Griefing (Sabotage)
22:21	Dire	Mirana	ALL	forget sidelanes please	"sidelanes" = top and bottom lanes	"	T - Griefing (Collusion)
22:22	Dire	Lina	ALL	just ls	"ls" = Lifestealer, another teammate in the game	"	T - Griefing (Collusion)
22:24	Dire	Mirana	ALL	just throne	"throne" = archaic term for Ancient, the most important structure in the game	"	T - Griefing (Collusion)

Excerpt 4 above showcases all of these acts of griefing in the /all chat. At 21:20, after Mirana mockingly praises Vengeful Spirit for a teamfight they lost, Lina announces his resignation and Mirana does the same later at 21:39. Announcing your resignation or surrender is a common gesture in online multiplayer games when a team is nearing a loss and thus, were not coded as toxic instances; they are simply an admission of defeat. However, as the game continued, contextual clues provided by the rest of the /all chat log revealed that the game was actually not nearing its conclusion yet, and that Lina and Mirana had resigned early, having given up at this point. This becomes problematic for their teammates as it is revealed from both the /all chat and battle logs that they continued playing on despite their premature resignation. Deciding that the game had reached its foregone conclusion and wanting it to end quickly, after prematurely announcing their surrender, Lina colludes with the enemy team, revealing crucial information to them such as advising them to go straight for the last line of defense in the base at 22:13 and announcing that only Lifestealer (Lina's teammate) was defending the base at 22:22. Mirana participates in the collusion as well, advising their opponents to ignore other objectives at 22:21 and to go straight for their Ancient instead at 22:24. Finally, at 22:19, Lina announces that he will not defend the base, effectively sabotaging his team in the process and to everyone's knowledge.

All of these behaviors are destructive to a team and highly unconducive for what is supposedly a team environment. There are already counter-measures in place to players griefing via play and team chat in *Dota 2*, but griefing via /all chat also deserves attention as it could be a toxic starting point for many players in *Dota 2* that is currently underexplored.

Hate Speech in the /All Chat

Hate speech is primarily defined by the use of markedly offensive slurs, messages that insult a player's race, gender, sexuality, disabilities or religion, and threats and ill wishes that seek to cause harm to a person's well-being or family. Hate speech is not very common across the /all chat logs collected in this study, but when they are encountered, they are certainly disturbing or uncomfortable to read. For instance, Excerpt 5 below shows two perpetrators, Void Spirit and Enigma, overtly exhibiting discrimination towards the Chinese race. It is highly likely that Void Spirit and Enigma were playing against players that were Chinese and often, the only way they could deduce that information was from the players' display names. If their names were written in Chinese, most players would assume that they belong to that race. Since all players' identities are kept anonymous in this data set, this is the most reasonable assumption possible for their behavior.

At 28:03, Void Spirit first initiates with an insult "chinese dog" after winning one of many teamfights in the game. They proceed to win at least two more teamfights until Enigma follows with "chinese pork bok choy" which achieves the same effect as calling anyone a popular dish from their national cuisine, e.g. "Thai tom yum". So far, these insults have been racially insensitive and ignorant, but arguably, though in a very slight sense, could be partially motivated by the spirit of wanting to crush their opponents in-game and mentally, which has happened before in sports (Kershnar, 2015). However, Enigma's next monologue of describing the Chinese as mindless slaves ultimately hints that this has gone far and beyond the game, a phenomenon that Dixon (2007) often alludes to as utterly irrelevant and unnecessary in competitive settings. Such derogatory drivel of a player's race is indeed irrelevant to the state of the game, as a player's race does not determine his skill nor guarantee his loss or victory. Enigma's toxic monologue, thus, is a prime example of hate speech, where although it was manifested as a taunt to demoralize his opponents, its uniformly malicious content supersedes that intention and cements it as toxic. It is also worthy to note that no response came from the opposing team in light of these toxic taunts. This runs in line with how players have previously dealt with toxic experiences (Zsila et al., 2022), and how most players are advised to deal with toxic assailants: ignore them so as to not feed them the satisfaction and gratification (Kids Health, 2018; Hilvert-Bruce & Neill, 2020).

Excerpt 5

Racism

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
28:03	Dire	Void Spirit	ALL	chinese dog	"dog" = unlike in the West, calling someone a dog is usually deemed as an insult in Asia	Dire won a teamfight with 4 heroes dead on Radiant.	T: Hate Speech
28:04	Dire	Void Spirit	ALL	u ok?	-	"	T: Hate Speech (cont.)
31:07	Dire	Void Spirit	ALL	?	-	Dire won a teamfight with 5 heroes dead on Radiant.	TT: Rhetorical Question
32:27	Dire	Enigma	ALL	(Voiceline) You are beneath me.	-	Dire won a teamfight with 3 heroes dead on Radiant.	TT: Taunt
32:42	Dire	Enigma	ALL	chinese pork bok choy	"pork bok choy" = a common Chinese cuisine dish	"	T: Hate Speech
34:45	Dire	Enigma	ALL	(Voiceline) An astronomical price.	-	Dire won a teamfight with 5 heroes dead on Radiant.	TT: Taunt
34:52	Dire	Enigma	ALL	(Voiceline) Silence is golden.	-	"	TT: Taunt
34:59	Dire	Enigma	ALL	chinese pork choy	-	"	T: Hate Speech
35:24	Dire	Enigma	ALL	chinese in my country all slaves	-	Dire destroyed Radiant's Tier 4 Towers.	T: Hate Speech
35:36	Dire	Enigma	ALL	brain = 0	-	"	T: Hate Speech
35:51	Dire	Clockwerk	ALL	(Voiceline) It's looking Spicy!	-	"	TT - Taunt
35:57	Dire	Void Spirit	ALL	ez	-	Dire destroyed Radiant's Ancient.	T: Hate Speech
35:59	Dire	Enigma	ALL	bye chineses	-	Dire wins. Game ends.	T: Hate Speech

In Excerpt 6 below, hate speech is interestingly delivered and propagated between multiple players of both teams as a running joke. The Muslim deity, "Allah" is a highly sacred and sensitive reference for Muslims and should only be used with care and austerity. However, in the exchanges that unfold between the players here, it is used carelessly in vain. The context is that several minutes prior to 36:58, Riki admitted to wanting to break his fast (a Muslim ritual conducted after fasting for Ramadhan). It is unclear why Riki wrote this in the /all chat as there had been no related discussion beforehand. But minutes later, upon losing a teamfight and dying, Oracle shouts, "ALLAHUAKBAR" in vain, and proceeds to threaten to slap his opponents (one of whom is Riki) and instructs them to eat pork (which is prohibited for Muslims). Soon after, laughter ensues and jokes are made about the cleanness and delicacy of pork. It is clear from this that nobody finds the topic offensive or disturbing. Once that has been established, even Riki joins in and recommends "charsiew" (barbecued pork) as the best pork dish.

The act of participating in a discourse that is obviously insensitive to a religion clues us in on the dangers of when toxicity becomes normalized. In this case, when Bristleback and Lion followed up on Orace's outburst with

their own jokes (at 37:33 and 37:31, respectively), they inadvertently established norms within the collective social group of the /all chat that making fun of Islam was acceptable. When such norms have been established, individuals would typically model their behaviors after others' behaviors or risk being ostracized or left out. According to Social Cognitive Theory (SCT), this is referred to as the *establishment of undesirable group norms* (Gervais, 2015, 2017; Kou & Nardi, 2013). When toxic behavior is embraced by the social group as a whole instead of being condemned, it becomes normalized, even for a short period of time, despite how objectively undesirable that behavior may be. In turn, Bristleback and Lion's humorous and positive responses also influenced the behaviors of other members, in what is termed the *emotional contagion*, where members of a social group would often monitor the positive or negative moods created in their surroundings in order to react positively or negatively (Kramer et al., 2014; Shen et al., 2020). Excerpt 6 thus shows a compelling example of normalized toxicity at work as a result of inadvertent ignorance.

Excerpt 6

Religion-Based Discrimination

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
36:58	Radiant	Oracle	ALL	ALLAHUAKBAR	"Allahu Akbar" = Allah is almighty; a religious phrase used by Muslims to accept God's sovereignty and as thanksgiving to Him	Dire won a teamfight with 3 heroes dead (including Oracle and Lion) on Radiant.	Religious Phrase
37:00	Radiant	Lifestealer	ALL	?	-	"	Confusion
37:11	Radiant	Oracle	ALL	SAGPAON TIKAG BABOY RON	**Cebuano: I will slap you, pig!**	"	T: Hate Speech
37:13	Radiant	Oracle	ALL	eAT PORK	Pork is considered "haram" or unholy to Muslims.	"	T: Hate Speech
37:16	Radiant	Oracle	ALL	RAW PORK	-	"	T: Hate Speech
37:30	Dire	Bristleback	ALL	haggaga	"hahaha"	"	Response to T: Laughter (Dismissal)
37:31	Radiant	Lion	ALL	pork si clean	-	"	T: Hate Speech
37:31	Dire	Bristleback	ALL	ahghaha	"hahaha"	"	Response to T: Laughter (Dismissal)
37:33	Dire	Bristleback	ALL	pork is nice	-	"	Response to T: Participate in Hate Speech
37:37	Dire	Riki	ALL	charsiew	Mandarin: Barbecued pork	"	Response to T: Participate in Hate Speech
37:38	Dire	Riki	ALL	best	-	"	Response to T: Participate in Hate Speech
37:39	Dire	Crystal Maiden	ALL	siu yok nice	Cantonese: Crispy pork belly	"	Response to T: Participate in Hate Speech
37:41	Radiant	Oracle	ALL	ALLAH HATE U	-	"	T: Hate Speech
37:41	Radiant	Lion	ALL	LOVE IS Like allah	-	"	T: Hate Speech

Trash-talking Instances in the /All Chat

As established earlier on, three main types of trash-talking are known to exist in a competitive channel such as the /all chat: ridicule or intimidation, self-aggrandizement and light-hearted banter. Table 5 below tabulates the total number of instances belonging to these trash-talking types (along with their subtypes) that were encountered in the analysis. Similar to the pre-ordained categories of toxic behavior, additional sub-types were found for trash-talking as well, particularly under the category of ridicule or intimidation, and were all included in the refined framework below (see Table 6 below for a complete list). In the following paragraphs, trash-talking instances along with how they are manifested in the /all chat by Southeast Asian players of *Dota 2* are discussed.

Table 5

Total Number of Encountered Trash-Talking Instances in the /All Chat Logs (Ranked in Order of Frequency per Category)

Type	Sub-type	Frequency (instances)	Frequency (%)
Ridicule/Intimidation	Taunts	149	37.6
	Rhetorical Questions	71	17.9
	Provocations	45	11.4
	Sarcasm	35	8.8
	Minimizations	26	6.6
	Challenge Extensions	22	5.6
Self-aggrandizement	-	10	2.5
Light-hearted banter	-	38	9.6
	Total	396	100

Table 6

Refined Types of Trash-Talking in the /All Chat

Categories	Sub-categories	Examples
Ridicule/ Intimidation	*Taunts* - the act of flaunting one's success to an opponent or "kicking" an opponent "while he is down"	Excerpt 7
	Provocations - the act of unsettling an opponent with insults to annoy or anger them	Excerpt 9
	Sarcasm - ironic expressions used to insult or mock an opponent	Excerpt 8
	Rhetorical questions - questions directed to an opponent in an insulting manner that do not necessarily elicit responses	Excerpt 7
	Minimizations - minimizing the difficulty of a certain task or an opponent's success or accomplishment	Excerpt 9
	Challenge extensions - aggressive requests for or invitations to a duel or fight with the opponent(s)	Excerpt 9
Self-aggrandizement		Excerpt 10

	- self-centered comments that boast one's self as a way of affirming one's abilities in the game	
Light-hearted banter	- a friendly style of trash talk where players tease each other and do not take offense to the insults thrown	Excerpt 11

Ridicule/Intimidation

Six types of ridicule or intimidation moves were found in the /all chat logs of this study, namely, provocation, taunt, sarcasm, rhetorical question, challenge and minimization. Among them all, taunts, were by far, the most common way of intimidating one's opponents and were usually performed in conjunction with success (Kershnar, 2015). They are often celebratory in nature and afforded by players in advantageous positions who wish to accentuate their success even further. In Excerpt 7 below, notice how one player (Puck) only begins taunting his opponent (Void Spirit) after winning the teamfight at 19:35. Taunts are also often manifested in the form of in-game voicelines by players who again, usually deploy them in quick succession with small victories in the game.

Excerpt 7

Taunts & Rhetorical Questions

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
0:06	Radiant	Axe	ALL	(Voiceline) 唉唉唉！唉？唉 …	Mandarin: Ah ah ah! Ah? Ah…	Game starts.	Inconclusive
8:54	Dire	Void Spirit	ALL	?	-	Dire won a teamfight with 2 heroes dead on Radiant.	TT - Rhetorical Question
8:58	Radiant	Puck	ALL	lol	"lol" = laugh out loud (laughter)	"	Laughter
14:11	Dire	Void Spirit	ALL	AA	-	N/A	Inconclusive
15:18	Dire	Lina	ALL	(Voiceline) It's looking Spicy!	-	N/A	Inconclusive
18:38	Dire	Void Spirit	ALL	END	"END" = finish the game	Dire and Radiant have clashed in a teamfight.	T - Premature Resignation
18:39	Dire	Void Spirit	ALL	GG	"GG" = good game, a sign of surrender	"	T - Premature Resignation (cont.)
18:39	Dire	Void Spirit	ALL	END	"END" = finish the game	"	T - Premature Resignation (cont.)
19:35	Radiant	Puck	ALL	Sobrang basic	**Tagalog: That was super basic.**	Radiant won a teamfight with 3 heroes dead on Dire.	TT: Taunt
19:48	Radiant	Puck	ALL	parang tanga lang yung void trashtalk pa	**Tagalog: Void (Spirit) is stupid, yet he wants to trash-talk.**	"	TT: Taunt (cont.)

Excerpt 7 also features one of the most common forms of ridicule or intimidation that a player can execute, which is the rhetorical question. In this data set, the most used example of a rhetorical question is a punctuation, the question mark (?). Symbolic in its use, the question mark poses deliberate confusion at a specific in-game event (usually, an opponent's blunder), but does not necessarily demand an explanation. This is usually because the answer is clear to both parties: one player made a mistake and the other succeeded off this mistake. In Excerpt 7 above, Puck even explicitly identified their opponent's use of a question mark as implicating or initiating a trash-talking event. At 8:54, after winning a teamfight, Void Spirit types "?", prompting players on the opposing team to contemplate their loss. This is followed by laughter from Puck who dismisses it. Later, when the tables turn on Void Spirit who seems to be losing a teamfight, he prematurely announces his resignation at 18:39. Puck, after winning the teamfight at 19:35, takes this chance to taunt Void Spirit in return, declaring that the teamfight win was "super basic" (easy) and insults Void Spirit for trash-talking earlier.

Occasionally, players would resort to insulting their opponents sarcastically (Pujante, 2021). This is rare in the /all chat logs, but worth mentioning as it represents an unorthodox method of insulting one's opponents, through irony. In Excerpt 8 below, the game continues from Excerpt 7 and the time is now 28:13. Puck has been relentlessly been taunting and provoking Void Spirit for the past 10 minutes. At 29:55, after winning a teamfight in which Void Spirit is also eliminated, Puck ironically praises Void Spirit in all capital letters in the /all chat, how smart he is. He also praises him for being strong, even though they have just lost a major teamfight and are being sieged upon in their base. Contrary to previous reports of sarcasm use in trash-talking, where it would often be perceived as humorous and met with laughter (Irwin et al., 2021; Pujante, 2021), no such immediate response is found here except for Phantom Assassin's sympathetic expression. However, this could also be attributed to Puck's delivery of the ironic slight, choosing to use capital letters, which conveys the act of yelling (Willingham, 2018), as well as diverging from the lingua franca of the game, i.e. English.

Excerpt 8

Sarcasm

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
28:13'	Radiant	Puck	ALL	WALANG PAGASA SA VOID NYOP	**Tagalog: THERE'S NO HOPE WITH YOUR VOID (SPIRIT).**	Radiant recently killed Dire's Lina.	TT - Provocation
28:21'	Radiant	Puck	ALL	0-4 SI TANGA	**Tagalog: 0-4 IDIOT.** 0-4 refers to Void Spirit's score at this time: 0 kills & 4 deaths	"	TT - Provocation (cont.)
28:22'	Radiant	Puck	ALL	???	-	"	TT - Rhetorical Question
29:25'	Radiant	Puck	ALL	hAHAHAHA	-	Radiant killed Dire's Phantom Assassin.	Laughter
29:35'	Dire	Phantom Ass	ALL	gg	"gg" = Good game	Radiant destroys Dire's Bottom Barracks.	Resignation
29:37'	Radiant	Puck	ALL	eZ	"eZ" = easy	"	TT - Taunt
29:55'	Radiant	Puck	ALL	TALINO NG OFFLANE NYO E	**Tagalog: YOUR OFFLANE IS SMART.** **[Referring to Void Spirit, the offlane on Radiant]**	Radiant won a teamfight with 4 heroes dead on Dire.	TT - Sarcasm
29:57'	Radiant	Puck	ALL	LAKAS	**Tagalog: STRONG.** **[Referring to Void Spirit]**	"	TT - Sarcasm
29:58'	Radiant	Puck	ALL	MAG FEED	**Tagalog: FEEDING.** "FEED" - to die, thereby feeding resources to the enemy team	"	TT - Taunt
30:13'	Radiant	Puck	ALL	NAKATAKAS KA LANG ISANG BESES BUMOSES KA NA?	**Tagalog: YOU ONLY ESCAPED ONCE AND YOU DECIDED TO TRASH-TALK ALREADY?**	"	TT - Rhetorical Question
30:17'	Radiant	Puck	ALL	ISKWATER NA TANGA	**Tagalog: Impoverished and stupid.**	"	TT - Taunt
30:33'	Dire	Phantom Ass	ALL	Sayang	**Tagalog: What a waste.**	Radiant destroys Dire's Middle Barracks.	Neutral

Another way of initiating trash-talking events and escalating them is through the use of provocations. Provocations are mainly deployed to annoy or anger an opponent, 'rattling' their minds in order to agitate them (Irwin et al., 2021). Unlike taunts, provocations do not rely on success being achieved before being used. In fact, provocations can even be thrown at opponents in losing conditions, with the main objective of only angering those players. Excerpt 9 below showcases Lion insulting Ogre Magi at 21:47, despite having just been eliminated in a teamfight his team lost. However, these insults are baseless, and hence, only serve to provoke Ogre Magi.

Excerpt 9

Provocations, Minimizations & Challenge Extensions

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
21:47	Dire	Lion	ALL	u noob ogre	"noob" = someone who is bad at the game; derived from "newbie", meaning new or inexperienced	Radiant won another teamfight with 2 heroes dead (including Lion) on Dire.	TT - Provocation
21:48	Dire	Lion	ALL	stfu	"stfu" = shut the f*** up	"	TT - Provocation (cont.)
21:50	Radiant	Witch Doctor	ALL	when mid lose	"mid" = mid player	"	Neutral
21:50	Dire	Lion	ALL	lucky mid	Referring to Ogre Magi, the mid player on Radiant	"	TT - Minimization
21:53	Radiant	Witch Doctor	ALL	no suport roam	-	"	Neutral
21:53	Dire	Lion	ALL	u got noob zeus mid	-	"	T - Flaming Teammate TT - Minimization
21:55	Dire	Wraith King	ALL	lucky mid	-	"	TT - Minimization
21:57	Radiant	Ogre Magi	ALL	noob? kill me then moron	-	"	TT - Challenge

In Excerpt 9 above, Lion also uses a newly discovered tactic at 21:50 and 21:53 that is popular among the trash talkers in this data set: minimization. As the term suggests, minimization occurs when a player minimizes or diminishes the success or difficulty of a certain task performed by an opponent. To illustrate, the context in Excerpt 9 is that Lion's team has gradually been losing due to Ogre Magi winning the middle lane and being able to carry his advantage to later teamfights and winning them as well. Ogre Magi is a melee (close-range) hero who had to play against Zeus, a far-range hero in the middle lane. Winning the middle lane in this match-up is no easy feat, yet Lion blatantly disregards Ogre Magi's success and accuses him of only being "lucky". At 21:53, Lion reiterates that Ogre Magi was only able to succeed due to the weakness of his own teammate, Zeus, flaming Zeus in the process as well. Wraith King chimes in at 21:55 with the same message as well, all in hopes of provoking Ogre Magi and denying him the satisfaction of his own accomplishments.

Provoked, Ogre Magi finally responds by issuing Lion and the Dire team a challenge: kill him. Challenge extensions, among trash talkers in this data set, seem to be the prevalent method of validating one's insults by proving one's skill. Nonetheless, Ogre Magi proceeds to finish the game by never dying once. However, even so, the trash talk between Ogre Magi and Lion never stopped. Once trash-talking events have been escalated, and they usually do just as when a team faces a losing scenario, it is difficult for them to de-escalate due to the varied emotions that have been invested by the players (Pujante, 2021). This seems to be a repeated pattern throughout the /all chat logs in this study as well, where once trash-talking has been initiated, it either escalates quickly and exacerbates, or is met with little to no response and does not escalate.

Self-aggrandizement

Self-aggrandizement represents moments in a game where a player becomes self-absorbed enough to make boastful comments about one's self and garner attention to themselves (Yip et al., 2018). There are only a few instances of self-aggrandizement found in the /all chat logs. Most of them were met with no response and were lost in heated trash-talking events where two parties are heavily engaged with insulting one another. However, self-aggrandizement remains unique and worth mentioning in that it is less of an insult to other players, and more of a self-centered rhetoric that demands attention but rarely attains any. In Excerpt 10 below, when Dragon Knight brings attention to Juggernaut's negative score at 28:01, Monkey King, who has achieved an impressive score of amassing 20 kills in less than 30 minutes, attempts to draw attention to his own score at the same time. At 28:04, he exclaims "what" to elicit responses of amazement at his score, however, to no avail. As the trash talk develops around him, he repeats at 28:14 again, "whattt 20-0", only to be met again with no response.

Excerpt 10

Self-aggrandizement

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
27:46	Radiant	Dragon Knight	ALL	oi jugg	"jugg" = Juggernaut, a hero on Dire	Radiant killed Dire's Jakiro.	TT - Provocation
27:47	Radiant	Dragon Knight	ALL	stfu la	"stfu" = Shut the f*** up	Juggernaut killed one of Radiant's Couriers.	TT - Provocation
27:48	Radiant	Monkey King	ALL	lol	"lol" = laugh out loud (laughter)	"	Laughter
28:01	Radiant	Dragon Knight	ALL	2 5 8	Juggernaut's score at this point: 2 kills, 5 deaths and 8 assists	Radiant destroyed Dire's Middle Barracks.	TT - Provocation
28:01	Radiant	Monkey King	ALL	20-0	Monkey King's score at this point: 20 kills and 0 deaths	"	TT - Self-Aggrandization
28:02	Radiant	Treant Protector	ALL	LC	"LC" = Legion Commdander, Juggernaut's teammate on Dire	"	Neutral
28:04	Radiant	Monkey King	ALL	what	-	"	TT - Self-Aggrandization
28:04	Radiant	Dragon Knight	ALL	keep barking	"barking" = an analogy for being noisy, like a dog would be	"	TT - Provocation
28:04	Radiant	Treant Protector	ALL	kill ur self	-	"	T - Ill Wish
28:12	Dire	Juggernaut	ALL	I am not barking	-	"	Neutral
28:12	Dire	Juggernaut	ALL	LOL	-	"	Neutral
28:14	Radiant	Monkey King	ALL	whattt 20-0	-	"	TT - Self-Aggrandization
28:38	Radiant	Dragon Knight	ALL	ez mid puck	"ez" = easy	"	TT - Provocation

Light-hearted Banter

Banter is a friendly style of trash talk where players perceive the insults as playful or simply 'teasing' one another. Though rarely encountered in the /all chat logs, there are a few cases where players gradually develop this sense of camaraderie among each other and begin to partake in the trash talk as friends normally would. They would begin to make jokes at each other's expense and not take them seriously. They would play along with those insults and tease them in return. Usually, banter unfolds among people who are already familiar with one another in a given context (Kaye et al., 2022; Irwin et al., 2021), e.g. professional *Dota 2* players in Europe are so cognizant with each other's idiosyncrasies that trash-talking is almost never taken seriously by them. It is interesting how this type of talk can develop among strangers playing together in a game as well, and Excerpt 11 below showcases exactly such a relationship. At 26:00, after being eliminated, even though Beastmaster attempts to provoke Juggernaut by minimizing the difficulty of playing against him earlier in the top lane, Juggernaut simply responds in an affable manner that Beastmaster actually lost top lane. The "XD" emoticon that Juggernaut employs here is key to underscoring the lightness behind his

response. This also de-escalates the situation as Beastmaster responds with a "lol" and asks if he "really" lost top lane, to which Juggernaut responds with "hard". Lion makes a reference to Beastmaster's previous misspelling of the word "impossible" at 26:25 as he jokingly remarks that it is impossible that Beastmaster lost, to which Juggernaut responds with "XD". Juggernaut's playful "aaa u got me" line at 26:59 also hints at the amiability of the atmosphere as the rest of the log is filled with seemingly ingenuous laughter from Lion and a wholesome comment from Sniper, "this game so fun".

Excerpt 11

Light-hearted Banter

Time	Team	Hero Name	Channel	Message	Notes	Situation	Code
26:00	Radiant	Beastmaster	ALL	lol jugg ezz top	"lol" = laugh out loud (laughter) "ezz" = easy "top" = top lane	Dire killed Beastmaster on Radiant.	TT - Minimization
26:15	Dire	Juggernaut	ALL	ya u lost top man	-	"	Response to TT - Banter
26:19	Dire	Juggernaut	ALL	XD	"XD" = emoticon for playful laughter	"	Response to TT - Banter
26:22	Radiant	Beastmaster	ALL	lol really	-	"	Neutral
26:24	Dire	Juggernaut	ALL	hard	-	"	TT - Banter
26:25	Radiant	Lion	ALL	that's unimpossible	An intentional misspelling of "impossible" [This is a reference to Beastmaster's earlier misspelling]	"	TT - Banter
26:29	Dire	Juggernaut	ALL	XD	-	"	TT - Banter
26:59	Dire	Juggernaut	ALL	aaa u got me	"aaa" = Ahhh	"	TT - Banter
27:05	Radiant	Jakiro	ALL	(Voiceline) It's looking Spicy!	-	"	TT - Banter
28:20	Radiant	Lion	ALL	HJAHA	-	Radiant won a teamfight with 5 heroes dead on Dire.	Laughter
28:22	Radiant	Sniper	ALL	yes	-	"	TT - Banter
28:23	Radiant	Sniper	ALL	yes	-	"	TT - Banter
28:35	Radiant	Sniper	ALL	this game so fun	-	"	TT - Banter
28:56	Radiant	Lion	ALL	HAHA	-	Game ends.	Laughter

Conclusion

This study sought to fill in the research gap of previous studies in the fields of toxic behavior and trash-talking by drawing on data produced by Southeast Asian players from real *Dota* 2 matches and analyzing their content. Since no prior research of this magnitude has been done before, this study relied on previous studies for working definitions, types and categories of each discourse in order to develop an analytical framework suitable for analyzing such complex data in the /all chat. After a preliminary analysis, the framework was further refined and from the data set, three categories of toxic behavior and three types of trash-talking behavior were identified, with their own sub-categories and sub-types. For toxicity on the /all chat, the findings

suggest that most instances of toxic behavior seem to be derived from moments of in-fighting between teammates. Dissatisfied with their teammates' behavior, players would take to the /all chat to air their grievances; flame, mock, rant about them and even resort to griefing them via premature resignation, collusion and sabotage. Instances of hate speech being used on the /all chat were not as common, but in the two that were found, players were overtly hateful about an opponent's particular race in one instance and in the other, ignorant about respecting a particular religion. Both provide interesting insights about the nature of toxicity within a social group.

On the other hand, trash-talking had a dominating presence in the data set. Various types of insults were rife throughout the /all chat logs in this study. Most of them were thrown at a player's opponents in tandem with small victories within the game , while some were thrown regardless of losses or failures within the game. In both cases, when the relative context behind each insult (i.e. the in-game 'situation') was considered, it could be argued the insults were thrown strategically in order to mentally influence their opponents into playing worse or better (Yip et al., 2018). Though they appear harsh and aggressive, they are simply motivated by intentions underpinned by the inherent nature of online competitive games and even sports, that is, an innate desire to win, to elevate the stakes of the game and to undermine their opponents in order to reach those goals (Irwin et al., 2021; Pujante, 2021). The myriad of insults the Southeast Asian players of *Dota 2* have creatively manifested in these /all chat logs are no different, and most of them were used to ridicule or intimidate players of an opposing team, whether it be through provocations, taunts, sarcasm, rhetorical questions, minimizations or challenges. Simply put, the ugly aggression is part of the sport and subsequently, its discourse (Duncan; 2018; Kaye et al., 2022; Pujante, 2021; Summers, 2007); and in a few exceptional cases, it is selfishly motivated (self-aggrandizement) and borne out of unexpected wholesomeness between strangers (light-hearted banter).

However, because both discourses employ similar mechanisms (insults) in the same channel (/all chat), they tread closely along a gray area and eventually end up being used interchangeably. Where then might we draw the line between both concepts? This study proposes that the key lies in content that qualifies as being uniformly malicious that it supersedes the confines of trash-talking. Swanson (2015) refers to this practice as "cuing ideology", where even without the apparent use of a slur, a person is able to evoke ideologies that are generally harmful or undesirable in any context. Such malicious mechanisms include notions of social division, social exclusion and us/them dichotomization, which all fall in line within the boundaries of hate speech. Thus, even when racist insults were used under the guise of taunts in Excerpt 5, it was more appropriate to code them as toxic instances due to the infallibly toxic ideologies they were promoting.

Quite ostensibly, both toxicity and trash-talking would benefit from further research combining both fields. Nevertheless, it is hoped that this study has provided a decent starting point for exploring and investigating the relationship between both discourses.

Limitations of the Study

Due to the arbitrary nature of the data set – where not all utterances are intelligible as a result of human error and unpredictable idiosyncrasies – as well as the limited contextual information provided by OpenDota, some utterances were inevitably bound to be inconclusively coded due to a lack of evidence. Unfortunately, this is one limitation of relying only on /all chat logs without reviewing the actual matches that took place using the in-game client; though, that is not to say reviewing replays of the matches would eliminate this hindrance completely, but it would provide more context to the analysis. Another obvious limitation is the small sample size of /all chat logs that were collected, where no significant generalizations could be made. Despite presenting a wealth of literature on the definitions that were used to identify toxic and trash-talking instances in the /all chat logs, the analytical process is still overly reliant on the interpretive prowess of the researcher and the inter-coder. Since human error exists, there is always a chance that both individuals might have been inaccurate with a certain code or two.

Suggestions for Future Studies

Future studies may consider analyzing *Dota 2* /all chat logs at a more in-depth level, using conversation analysis to pair and measure players' responses to instances of toxicity and trash-talking in order to determine how these behaviors are perceived (Frommel et al., 2023). Future research may also consider a multimodal approach and analyze player utterances in conjunction with their in-game actions; a feat this study was not able to achieve due to not having access to the video replays of the players' matches. Last but not least, ethnography – where a researcher gradually fits in with a group of *Dota 2* players and learns first-hand how these toxic and trash-talking utterances are manifested – is also another research method to consider and would provide even richer information to glean from.

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