The Impact of Gamified Cyberbullying Trends on Adolescent Mental Health on TikTok in the U.S.

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Abstract- Online discourse within gamified TikTok trends generates varied forms of audience engagement and harassment behaviors. Using text mining, this study examined the prevalence and nature of cyberbullying directed at adolescent males and females in the U.S. within gamified contexts on TikTok. Analysis of 50,755 comments from 60 TikTok videos revealed that non-cyberbullying comments occurred significantly more than expected (97.1% for males, 96.7% for females), Among cyberbullying behaviors, sexualization dominated responses to both genders (92.46% of male-directed cyberbullying, 89.19% of female-directed cyberbullying), while traditional harassment tactics occurred less frequently than anticipated. Notable gendered differences emerged in topic modeling, with males' content provoking performance-based harassment themes (Masculine Roasting, Rhyme Roasting) and females' content attracting appearance-focused commentary (Rating Culture, Sexualized Commentary). Sentiment analysis revealed that female adolescents received proportionally more neutral responses and fewer negative reactions compared to males. These findings demonstrate that while overt cyberbullying remains relatively infrequent on TikTok due to platform moderation, gamified contexts create environments where sexualized harassment becomes the predominant form of harmful behavior, with distinct gendered patterns requiring targeted intervention strategies.

Keywords- cyberbullying, gamification-trolling, TikTok, gender , adolescent online behavior, Social media

I.   INTRODUCTION

The impact of gamified cyberbullying trends on adolescent mental health on TikTok in the U.S. is multifaceted, involving both the platform's unique characteristics and the broader context of social media use among adolescents. TikTok, with its rapid growth, has become a significant space for adolescents to engage with mental health content, both positively and negatively (Langlais et al., 2024; Chochol et al., 2023). The platform's algorithmic nature and the way it mediates mental health narratives can influence how adolescents perceive and engage with mental health issues, potentially leading to self-diagnosis and trivialization of serious conditions (Avella, 2023; Tudehope et al., 2024). Cyberbullying on TikTok, as on other platforms, poses a significant threat to adolescent mental health, with victims experiencing increased risks of social anxiety, depression, and suicidal thoughts (McVeigh, 2022; Kim et al., 2018). The gamification of cyberbullying, where harmful behaviors are incentivized or normalized through platform dynamics, exacerbates these issues by making bullying more pervasive and harder to escape (Wati et al., 2024). This is particularly concerning given the platform's popularity among adolescents, who are still developing their social and emotional skills and are thus more vulnerable to such negative interactions (Wati et al., 2024). While TikTok also serves as a space for sharing coping strategies and support, the prevalence of stigmatizing and trivializing content can undermine these positive aspects, highlighting the need for more effective content moderation and educational interventions to mitigate the adverse effects of cyberbullying (Tudehope et al., 2024; Kulkarni et al., 2024). Gamified contexts on TikTok warrant specific research attention because they transform traditional cyberbullying dynamics through competitive elements, point systems, and audience participation features that can normalize harassment as entertainment. Unlike conventional social media interactions, gamified trends like rating challenges create structured environments where harmful behaviors become embedded within seemingly playful activities, making them harder for adolescents to recognize and report as abuse. The competitive nature of these trends amplifies participation and audience engagement, potentially increasing both the reach and psychological impact of

cyberbullying incidents compared to non-gamified interactions. Understanding these platform-specific dynamics requires examining how TikTok's unique features, particularly gamification elements, shape adolescent social interactions and peer influence.

Building on these concerns about platform-mediated harm, peer pressure represents a fundamental mechanism through which TikTok's features influence adolescent behavior. This influence is deeply intertwined with the social dynamics and the features of TikTok itself, which include entertainment value, social interaction, and user-generated content. Adolescents are particularly drawn to TikTok due to its ability to provide entertainment, facilitate communication, and allow for self-expression and passing time, which are key motivators for continuing to use the platform (Shao et al., 2023). The platform's algorithm drives engagement by clustering users around shared interests, creating a kind of social cohesion or peer group where adolescents find content that resonates with their tastes and preferences (Gerbaudo, 2024). This clustering fosters a form of peer alignment, where the types of content adolescents consume are heavily influenced by what their peers find engaging and share frequently. Furthermore, TikTok's social dynamics facilitate a form of digital peer pressure. For instance, the high visibility of likes, comments, shares, and engagement metrics encourages adolescents to participate in trends and challenges to gain social validation and acceptance among peers (Lau et al., 2025). Such participation often aligns with broader community behaviors exhibited on the platform. Peer pressure also manifests through content creators and influencers who teenagers often look up to. These influencers can set trends and create content that becomes a standard for measuring popularity and success on the platform (Qin et al., 2022). The need to conform to these standards or to replicate popular content can drive adolescents to engage in behaviors they might not otherwise consider, potentially affecting their digital well-being (Virós-Martín et al., 2024). Consequently, the continuous loop of engagement and validation contributes to the pervasive nature of digital peer pressure. The interplay between TikTok's platform dynamics and adolescent mental health underscores the importance of developing adaptive strategies to create safer online environments and promote digital well-being (Kulkarni et al., 2024). However, existing research has not adequately examined how these peer dynamics specifically manifest within gamified cyberbullying contexts. Although emerging research recognizes the psychological harm of cyberbullying, a critical gap remains in understanding how gamified bullying trends on TikTok, such as "hot or not" challenges and public rating games, affect the emotional well-being of adolescents in the United States. These trends often frame harassment as playful interaction, blurring the line between entertainment and abuse, and making it harder for youth to identify or report harm. Investigating the harmful behaviors embedded in these viral challenges is essential for informing platform regulation, improving digital literacy, and advancing national public health strategies focused on adolescent safety and development.

Research Questions

1. To what extent do harmful behaviors associated with gamified cyberbullying trends appear in TikTok content created by adolescents?
   a) What is the extent and style of harmful behaviors in gamified trends targeting adolescent males on TikTok?
   b) What is the extent and style of harmful behaviors in gamified trends targeting adolescent females on TikTok?
   c) What are the differences in the style and frequency of harmful behaviors in gamified trends targeting adolescent males versus females on TikTok?
2. What are the most frequently discussed topics related to adolescent self-image and peer perception within these gamified cyberbullying interactions on TikTok?
3. What is the overall sentiment expressed by TikTok users toward adolescents who participate in or are targeted by gamified bullying trends?

II.   BACKGROUND

The current state of adolescent mental health in the United States presents a complex picture of significant challenges, with some recent improvements but persistent gaps in treatment access and support. Recent data reveal that mental health conditions affect a substantial portion of American adolescents. An estimated 49.5% of adolescents had any mental disorder (Mental illness—National institute of mental health. n.d.), according to the National Institute of Mental Health. However, this figure represents lifetime prevalence rather than current conditions. More specifically, between August 2021 and August 2023, an estimated 13.1% of U.S. residents aged 12 years and older experienced depression during any given two-week span. Rates were higher among females than males (Brody & Hughes, 2025, April). Anxiety disorders remain the most prevalent mental health condition among teens. Anxiety disorders are the most common mental health conditions seen in teenagers, impacting an estimated 31.9% of teens (Compass Health Center, 2025, June 20). Among younger adolescents specifically, 11% of children aged 3-17 had current diagnosed anxiety (Wilson & Dumornay, 2022). Gender

differences in adolescent mental health are particularly striking. The prevalence of major depressive episode was higher among adolescent females (29.2%) compared to males (11.5%). Similarly, female adolescents were more than twice as likely as their male peers to report feelings of anxiety (31% vs. 12%) and depression (25% vs. 10%) (Brody & Hughes, 2025, April). Some recent data suggest modest improvements in certain areas. New CDC data released in 2024 highlight improvements in mental health among some United States teens, including decreases in the percentage of students feeling persistently sad or hopeless CDC. (2024, August 12) when comparing 2021 to 2023 Youth Risk Behavior Survey data. However, significant treatment gaps persist. 20% of adolescents aged 12-17 reported having unmet mental health care needs. While more than half (55%) of U.S. adolescents reported discussing their mental and emotional health with a health care professional, only 20% of adolescents reported receiving mental health therapy (CDC, 2025, June 10; Wilson, & Dumornay, 2022). Suicide remains a critical concern, representing the third leading cause of death among those aged 15–29 years old (KFF, 2024, February 6) globally. In the United States, suicidal behaviors among high school students increased more than 40% in the decade before 2019 (Agency for Healthcare Research and Quality (U.S.), 2022, October 1). Self-harm behaviors are also prevalent, with an estimated 13% to 17% of adolescents engage in self-harming behaviors, typically starting between the ages of 11 to 15 and peaking between 15 to 17 (National Alliance on Mental Illness, 2025, August 7). Multiple factors contribute to these mental health challenges. Many adolescents reported enduring negative experiences such as bullying (34%), emotional abuse by a parent (17%), and neighborhood violence (15%) in 2021 and 2022 (Brody & Hughes, 2025, April). Additionally, teenagers spend an average of 7 hours and 22 minutes in front of a screen every day (National Alliance on Mental Illness, 2025, August 7), with research suggesting potential links between excessive screen time and mental health concerns. Among the various factors contributing to these mental health challenges, the role of social media platforms and online harassment has emerged as a critical area of concern, particularly as adolescents increasingly engage with digital environments that can both support and harm their psychological well-being.

Social media platforms, particularly TikTok, have become deeply integrated into adolescent social lives, functioning as central spaces for peer connection, identity formation, and cultural participation. These platforms fundamentally reshape how teenagers interact with one another and experience social belonging. TikTok has rapidly emerged as a dominant platform in adolescent social media use. Roughly six-in-ten teens say they use TikTok and Instagram, and 55% say the same for Snapchat (Vogels & Gelles-Watnick, 2023, April 24), according to the most recent Pew Research data from 2024. The intensity of engagement is particularly notable, with about six-in-ten visit TikTok daily. This includes 16% who report being on it almost constantly (Vogels & Gelles-Watnick, 2023, April 24). TikTok's algorithm-driven content delivery distinguishes it from other social media platforms. Based on statistical evidence, TikTok is more popular among young users worldwide than other social media networks (TikTok Revenue and Usage Statistics 2025). The platform's design encourages more passive consumption compared to platforms that emphasize direct social interaction. For many adolescents, TikTok and other social media platforms have become integral to their social development and peer relationships. many adolescent friendships now comprise both in-person and online contexts Katella, K. (2024, June 17). The platform appears to serve multiple social functions beyond entertainment, acting as a space for creative expression, peer connection, and community formation. The gaming environment creates unique conditions for harassment that differ from traditional cyberbullying. Anonymity of players and the use of avatars allow users to create alter-egos or fictional versions of themselves, which is part of the fun of gaming. But it also allows users to harass, bully, and sometimes gang up on other players (Huang et al., 2021). Adolescents who are targeted via cyberbullying report increased depressive affect, anxiety, loneliness, suicidal behavior, and somatic symptoms (Patchin & Hinduja, 2010). Given TikTok's widespread adoption among adolescents and its unique algorithmic and gamified features, understanding how cyberbullying manifests within this platform's specific design elements becomes critical for protecting adolescent mental health and informing evidence-based interventions.

III.   METHODOLOGY

This study employed a mixed methods design to examine online discourse surrounding gamified cyberbullying trends on adolescents in the United States. It uses Qualitative content analysis and text mining to identify recurring patterns of cyberbullying directed at adolescent males and females in the U.S. within gamified contexts on TikTok

Data Collection

Data collection focused on TikTok videos identified using a defined set of hashtags related to gamified cyberbullying trends, with comments subsequently extracted via exportcomments.com (https://exportcomments.com/). Specifically, 10 hashtags were used to identify relevant posts: #RateMeChallenge, #HotOrNot, #RoastMe, #RateMyLook, #RateMyOutfit, #RoastChallenge, #TikTokRoast, #FunnyRoast, #GlowUpChallenge, and #RateMySelfie. These hashtags were selected for their strong associations with rating, roasting, and appearance-based challenges involving adolescents. A purposive sampling strategy was used to select videos created by users

identified as teenagers based in the United States. Proxy indicators for identifying teen users included bios listing age or grade (e.g., "16 y/o," "junior in HS"), gendered usernames (e.g., @sarah_15, @mike_10thgrade), and content showing high school settings, peer interactions, or references to U.S. school culture. Location was further confirmed using captions or bios referencing U.S. cities, schools, or ZIP codes. Sampling was stratified by account type to include regular teen users with low follower counts, micro-influencers (1,000 to 10,000 followers), and high-visibility accounts with over 100,000 followers. Care was taken to include visible indicators of geographic, racial, and socioeconomic diversity based on both visual and textual cues. Videos that included branded content, influencer sponsorships, or commercial editing were excluded to focus on peer-driven content and authentic user interactions. A total of 60 TikTok videos were collected, with 30 posted by adolescent girls and 30 by adolescent boys. All publicly available comments from these 60 videos were extracted separately for analysis, resulting in a dataset of 24,595 boys' and 26,160 girls' user comments.

Codebook Development

Using NVivo (version 24), an inductive coding method was applied to manually analyze 1,500 user comments from TikTok videos related to gamified cyberbullying challenges. This method allowed themes and patterns to emerge naturally from the data instead of using predefined categories. Coding began with open coding, where each comment was examined line by line and initial codes were assigned to capture key phrases, expressions, or emotional tones. These codes reflected the users' own language and meanings. Overlapping or similar codes were then grouped and refined into broader thematic categories through several rounds of iterative review. This recursive process facilitated the development of meaningful themes representing adolescents' experiences with peer judgment, harassment, and emotional responses within TikTok challenges. Coding labels and definitions were adjusted throughout to ensure interpretations stayed grounded in the data and contextually relevant. To improve reliability, two independent coders completed the analysis and reached an interrater agreement of 93%. Table 1 summarizes the types of cyberbullying behaviors identified. The qualitative coding framework served as the foundation for large-scale text mining analysis using R, enabling systematic examination of response patterns across all 24,595 boys' and 26,160 girls' user comments.

Code	Definition	Example
Public Shaming	Comments or content where users publicly shame or humiliate based on ratings or rankings.	"You're a 2/10, seriously?"
Gendered Harassment	Insults or slurs targeting gender, often tied to participation or appearance in the trend.	"Typical girl trying to get attention with this dumb challenge."
Sarcasm/Mockery	Use of sarcasm or mockery to belittle participants, often framed as "just joking" or "fun."	"Wow, what a *great* look… said no one ever 😂"
Sexualization	Comments that reduce the creator to sexualized terms or objectify them within the challenge context.	"If you're not rated 10, you're doing it wrong 😳"
Peer Invalidation	Dismissing or minimizing the creator's feelings or reactions to bullying, often telling them to "toughen up."	"It's just a game, why are you so sensitive?"
Supportive Comments	Comments that defend, comfort, or encourage creators against cyberbullying within trends.	"Ignore the haters, you're amazing just as you are!"
Normalization of Bullying	Language framing bullying behaviors as normal, acceptable, or entertaining due to the gamified format.	"Everyone does it, it's just part of the challenge."
Gatekeeping	Comments policing who "deserves" to participate or be rated, often excluding based on appearance or skill.	"Only real gamers should do this, not wannabes."

Table 1. Codebook

IV. DATA ANALYSIS

Keyword Matching

Data preprocessing was conducted using the R packages *dplyr* (Wickham et al., 2023) and *stringr* (Wickham, 2022). Each comment in the dataset was assigned a unique identifier using the *row_number()* function to enable systematic tracking and organization. To classify comments, regular expressions were applied to detect specific word patterns and phrases linked to cyberbullying behaviors related to gamified challenges. The keyword lists for classification were derived directly from the inductive qualitative analysis described above, ensuring that computational categorization reflected the actual language and expressions used by TikTok users within gamified contexts.

A rule-based classification system was created to categorize comments into eight thematic groups: Public Shaming, Gendered Harassment, Sarcasm/Mockery, Sexualization, Peer Invalidation, Supportive Comments, Normalization of Bullying, and Gatekeeping. This classification was carried out using the *case_when()* function combined with *str_detect()* in R, allowing sequential evaluation of each comment against predefined keyword lists. Comments were assigned to the first matching category identified, while those that did not fit any category were labeled as non-cyberbullying. This data-driven approach ensured that the computational text mining remained grounded in user-generated language patterns identified through systematic qualitative analysis, providing both methodological rigor and contextual validity. The rule-based method offered a reliable and scalable way to identify and quantify distinct types of harmful messages within the datasets, forming the basis for further quantitative analysis of comment tone and cyberbullying prevalence within TikTok gamified challenges.

Category	Keywords
Public Shaming	you broke my scale, scale broke, not even on the scale, lowest rated, bottom tier, zero stars, everyone hates you, most downvoted, total flop, ranked dead last, public fail, leaderboard loser, you embarrassed yourself, exposed again, this is pathetic, you're the worst one, viral for the wrong reason, not even close, flop of the year, most hated contestant, laughingstock, can't show your face, ruined your rep
Gendered Harassment	flat like an ironing board, no curves, built like a board, boy body, manly looking, grow some curves, eat a burger, anorexic vibes, masculine features, can't tell if boy or girl, looks like a man, too skinny to be attractive, real women have curves, not feminine enough, beta male, soy boy, built like a twig, beanpole, girly man, lacks femininity
Sarcasm/Mockery	oh so pretty, sure jan, okay hun, what a queen, totally gorgeous, absolutely stunning, clearly a model, definitely a 10, such natural beauty, wow so confident, really feeling yourself, okay bestie, sure thing sweetie, so humble, definitely not fishing, groundbreaking content, so brave, what a hero, thanks for the ted talk, another sob story
Sexualization	smash or pass, hot or not, would bang, 10/10 would, slide into dms, daddy, mommy, thicc, cake, snack, thirst trap, only fans when, fire, sexy, fine af, stunning, drop dead gorgeous, goddess, dream girl, hottie
Peer Invalidation	you asked for it, don't post if you can't handle, welcome to the internet, just being honest, telling the truth, reality check, someone had to say it, keeping it real, facts though, no offense but, just my opinion, tough love, constructive criticism, asked for roasts, deal with it, grow thicker skin, get over it, stop being sensitive, this is normal, don't take it personal
Supportive Comments	you're beautiful, don't listen to them, stay strong, love yourself, you're perfect, ignore the haters, beautiful inside and out, don't let them get to you, you matter, sending love, stay positive, keep your head up, you're amazing, gorgeous queen, stunning, don't change, they're just jealous, beautiful soul, you're enough, authentic beauty
Normalization of Bullying	it's just a joke, learn to take a joke, can't take criticism, too sensitive, snowflake, it's not that deep, relax, chill, just for fun, lighten up, don't be so serious, just playing, entertainment, part of the game, how the internet works, normal behavior, it's a trend, just content, harmless fun, typical internet
Gatekeeping	not for you, stay in your lane, this isn't for everyone, some people shouldn't, not everyone can, maybe try something else, this requires, you need to be, only certain people, not your demographic, different league, out of your range, try your level, stick to what you know, not qualified, doesn't suit you, wrong platform, not your vibe, not your style, not your scene

Table 2. Keyword matching

Sentiment Analysis

Sentiment analysis was performed separately on TikTok comment datasets targeting boys and girls within gamified cyberbullying contexts. The analysis included 24,595 comments from boys' videos and 26,160 comments from girls' videos. All data preprocessing and analysis were completed using R (R Core Team, 2023). Comment text was tokenized into lowercase words using the *unnest_tokens()* function from the *tidytext* package (Silge & Robinson, 2016). Standard English stop words including "the," "and," and "is" were filtered out to focus analysis on semantically meaningful terms. Sentiment classification employed the Bing Liu lexicon (Hu & Liu, 2004), which categorizes individual words as positive or negative. Tokenized words were matched against the sentiment lexicon through inner joins to identify emotion-bearing vocabulary. Comment-level sentiment scores were calculated by comparing the proportion of positive versus negative words within each comment, resulting in classifications of positive, negative, or neutral sentiment. Sentiment classification followed established threshold conventions where comments with equal numbers of positive and negative words were categorized as neutral, while comments with more positive than negative words were classified as positive, and vice versa for negative sentiment (10e, 2018, August 10). This approach aligns with standard sentiment analysis practice where neutral classification serves as

the baseline category for comments that do not clearly express positive or negative polarity (Wikipedia contributors, 2025, July 26). The three-category classification system (positive, negative, neutral) represents the most widely used approach in sentiment analysis research, providing clear distinction between emotional polarities while accounting for non-evaluative content (Nandwani & Verma, 2021). A complementary word cloud provided visual representation of prominent vocabulary patterns across the dataset. Sentiment distribution analysis quantified the prevalence of each emotional category, with results presented via bar charts illustrating the overall emotional tone characterizing user responses to adolescents participating in TikTok gamified challenges.

Topic Modeling

Latent Dirichlet Allocation (LDA) topic modeling was implemented to identify thematic patterns within TikTok comment datasets targeting adolescent boys and girls. Analysis was conducted on 24,595 comments from boys' videos and 26,160 comments from girls' videos to uncover underlying discussion themes related to gamified cyberbullying interactions. Text preprocessing utilized R (R Core Team, 2023) with the *tm* package (Feinerer & Meyer, 2008) for data preparation. Raw comments underwent systematic cleaning procedures including conversion to lowercase, removal of punctuation and numeric characters, elimination of standard English stop words, and normalization of whitespace. Comments containing no substantive content following preprocessing were excluded to maintain analytical integrity. Document-Term Matrices (DTMs) were constructed for each gender-specific dataset to quantify word frequency distributions. LDA modeling was performed using the *topicmodels* package (Grün & Hornik, 2011), with separate models fitted for boys' and girls' comment datasets. The number of topics was set to five based on model evaluation considering perplexity scores and topic coherence measures, established methods for LDA optimization that balance model interpretability with predictive performance (Gan & Qi, 2021; Zhao et al., 2015). This approach follows standard practice in topic modeling where researchers evaluate multiple topic numbers to identify the optimal balance between model complexity and meaningful topic separation (Zhao et al., 2015). Five topics provided optimal model stability and topic isolation while maintaining clear interpretability of results, consistent with recommendations for datasets of this size and complexity (Gan & Qi, 2021). Reproducibility was ensured through implementation of fixed random seed parameters. Topic interpretation relied on extraction of the ten highest-probability terms (β values) for each identified topic. Visualization of topic-term relationships employed *ggplot2* (Wickham, 2016) to generate comprehensive displays of thematic content, revealing distinct patterns in cyberbullying discourse and emotional expression directed toward adolescent participants in TikTok gamified challenges.

1. To what extent do harmful behaviors associated with gamified cyberbullying trends appear in TikTok content created by adolescents?

a) *What is the extent and style of harmful behaviors in gamified trends targeting adolescent males on TikTok?* On TikTok, significantly more non-cyberbullying comments in gamified trends targeting adolescent males were found than cyberbullying comments, χ^2 (1, N = 24,595) = 24,563.01, $p < .001$. Sexualization was the most common cyberbullying tactic (92.46% of all cyberbullying comments), followed by normalization of bullying (3.99%), peer invalidation (1.57%), supportive comments (1.28%), sarcasm/mockery (0.29%), gatekeeping (0.14%), gendered harassment (0.14%), and public shaming (0.14%). A chi-square test of independence was performed to examine the relationship between the different cyberbullying tactics. The results were statistically significant, χ^2 (7, N = 701) = 4,102.38, $p < .001$, with significantly more sexualization tactics and significantly less normalization of bullying, peer invalidation, supportive comments, sarcasm/mockery, gatekeeping, gendered harassment, and public shaming than the other cyberbullying tactics. Based on the adjusted standardized residuals with critical value ±1.96, sexualization was used significantly more on TikTok than expected, while normalization of bullying, peer invalidation, supportive comments, sarcasm/mockery, gatekeeping, gendered harassment, and public shaming were used significantly less than expected.

Tactic	Non-cyberbullying		Cyberbullying			X^2	df	N	p
	#	%	#	%	Adjusted standardized residuals				
Sexualization			648	92.46	59.86	4,102.38	7	701	< 0.001

Tactic			#	%	Adj. residual	X^2	df	N	p
Normalization of Bullying			28	3.99	-6.36				
Peer Invalidation			11	1.57	-8.18				
Supportive Comments			9	1.28	-8.39				
Sarcasm/Mockery			2	0.29	-9.14				
Gatekeeping			1	0.14	-9.25				
Gendered Harassment			1	0.14	-9.25				
Public Shaming			1	0.14	-9.25				
Total	23,894	97.1	701	2.9		24,563.01	1	24,595	< 0.001

Table 3. The extent and style of cyberbullying directed at adolescent males.

b) What is the extent and style of harmful behaviors in gamified trends targeting adolescent females on TikTok?

On TikTok, significantly more non-cyberbullying comments in gamified trends targeting adolescent females were found than cyberbullying comments, χ^2 (1, N = 26,160) = 25,377.50, $p < .001$. Sexualization was the most common cyberbullying tactic (89.19% of all cyberbullying comments), followed by normalization of bullying (4.11%), peer invalidation (2.35%), supportive comments (1.41%), sarcasm/mockery (1.06%), gatekeeping (0.82%), gendered harassment (0.59%), and public shaming (0.47%). A chi-square test of independence was performed to examine the relationship between the different cyberbullying tactics. The results were statistically significant, χ^2 (7, N = 851) = 4,582, $p < .001$, with significantly more sexualization tactics and significantly less normalization of bullying, peer invalidation, supportive comments, sarcasm/mockery, gatekeeping, gendered harassment, and public shaming than the other cyberbullying tactics. Based on the adjusted standardized residuals with critical value ±1.96, sexualization was used significantly more on TikTok than expected, while normalization of bullying, peer invalidation, supportive comments, sarcasm/mockery, gatekeeping, gendered harassment, and public shaming were used significantly less than expected.

Tactic	Non-cyberbullying		Cyberbullying			X^2	df	N	p
	#	%	#	%	Adjusted standardized residuals				
Sexualization			759	89.19	63.27	4,582	7	851	< 0.001
Normalization of Bullying			35	4.11	-6.92				
Peer Invalidation			20	2.35	-8.37				
Supportive Comments			12	1.41	-9.15				
Sarcasm/Mockery			9	1.06	-9.44				
Gatekeeping			7	0.82	-9.63				
Gendered Harassment			5	0.59	-9.82				
Public Shaming			4	0.47	-9.92				
Total	25,309	96.7	851	3.3		25,377.50	1	26,160	< 0.001

Table 3. The extent and style of cyberbullying directed at adolescent females.

c) What are the differences in the style and frequency of harmful behaviors in gamified trends targeting adolescent males versus females on TikTok?

On TikTok, significant differences were found in the style and frequency of harmful behaviors in gamified trends targeting adolescent males versus females, χ^2 (7, N = 1,552) = 14.497, $p < .001$. Adolescent females experienced significantly more cyberbullying overall than adolescent males, χ^2 (1, N = 1,552) = 9,571.51, $p < .001$. Sexualization was the most common cyberbullying tactic directed at both groups, with adolescent males receiving 41.77% of all sexualization comments and adolescent females receiving 48.90%. Normalization

of bullying represented 1.80% of comments directed at adolescent males compared to 2.26% directed at adolescent females. Peer invalidation tactics comprised 0.71% of cyberbullying toward adolescent males and 1.29% toward adolescent females. Supportive comments accounted for 0.58% of cyberbullying directed at adolescent males versus 0.77% directed at adolescent females. Sarcasm/mockery represented 0.13% directed at adolescent males and 0.58% directed at adolescent females. Gatekeeping accounted for 0.06% of cyberbullying toward adolescent males compared to 0.45% toward adolescent females. Gendered harassment comprised 0.06% of comments directed at adolescent males versus 0.32% directed at adolescent females. Public shaming represented the smallest category, with 0.06% directed at adolescent males and 0.26% directed at adolescent females. Based on the adjusted standardized residuals with critical value ±1.96, both adolescent males and females experienced significantly more sexualization than expected. Both groups experienced significantly less normalization of bullying, peer invalidation, supportive comments, sarcasm/mockery, gatekeeping, gendered harassment, and public shaming tactics than expected.

Tactic	Platform						X^2	df	N	P
							9,571.51	7	1,552	< 0.001
	Boys			Girls						
	(#)	(%)	Adjusted standardized residuals	(#)	(%)	Adjusted standardized residuals				
Sexualization	648	41.77	59.86	759	48.90	63.27				
Normalization of Bullying	28	1.80	-6.36	35	2.26	-6.92				
Peer Invalidation	11	0.71	-8.18	20	1.29	-8.37				
Supportive Comments	9	0.58	-8.39	12	0.77	-9.15				
Sarcasm/Mockery	2	0.13	-9.14	9	0.58	-9.44				
Gatekeeping	1	0.06	-9.25	7	0.45	-9.63				
Gendered Harassment	1	0.06	-9.25	5	0.32	-9.82				
Public Shaming	1	0.06	-9.25	4	0.26	-9.92				
Total	701			851			14.497	1	1,552	< 0.001

Table 3. The extent and style of cyberbullying directed at adolescent males and females.

2. What are the most frequently discussed topics related to adolescent self-image and peer perception within these gamified cyberbullying interactions on TikTok?

When adolescent males were targeted in gamified trends, five distinct topics emerged: Casual Commentary dominated discussions with informal observations and general remarks about appearance or behavior. Rhyme Roasting reflected structured verbal attacks using poetic formats and rhythmic insults. Masculine Roasting represented gender-specific taunts and challenges to traditional masculine ideals. Personal Attacks captured direct insults targeting individual characteristics and perceived flaws. Roast Commentary focused on performative mockery designed for entertainment and social validation. When adolescent females were targeted in gamified trends, five different topics were identified: Rating Culture emerged as systematic evaluation and scoring of physical appearance and attractiveness. Sexualized Commentary reflected explicit sexual remarks and objectification of female bodies. Self-Identity encompassed discussions questioning personal worth and individual characteristics. Social Dynamics represented conversations about peer relationships, social standing, and group acceptance. Appearance Validation focused on discussions about beauty standards, physical attributes, and aesthetic approval-seeking behaviors. These findings demonstrate distinct gendered patterns in how cyberbullying manifests within gamified contexts, with males' content generating more performance-based and competitive harassment, while females' content elicited more appearance-focused and sexualized commentary targeting self-worth and social acceptance.
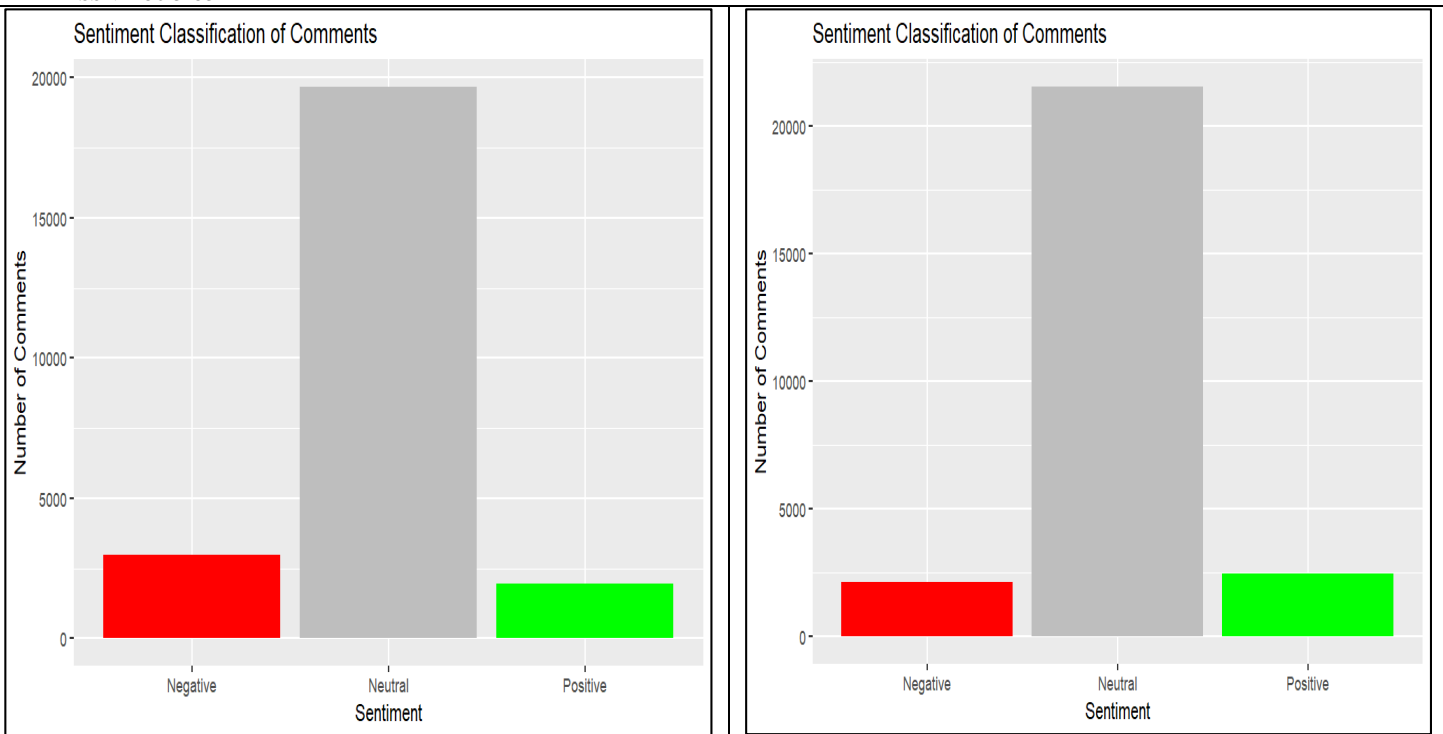
Adolescent males	Adolescent females
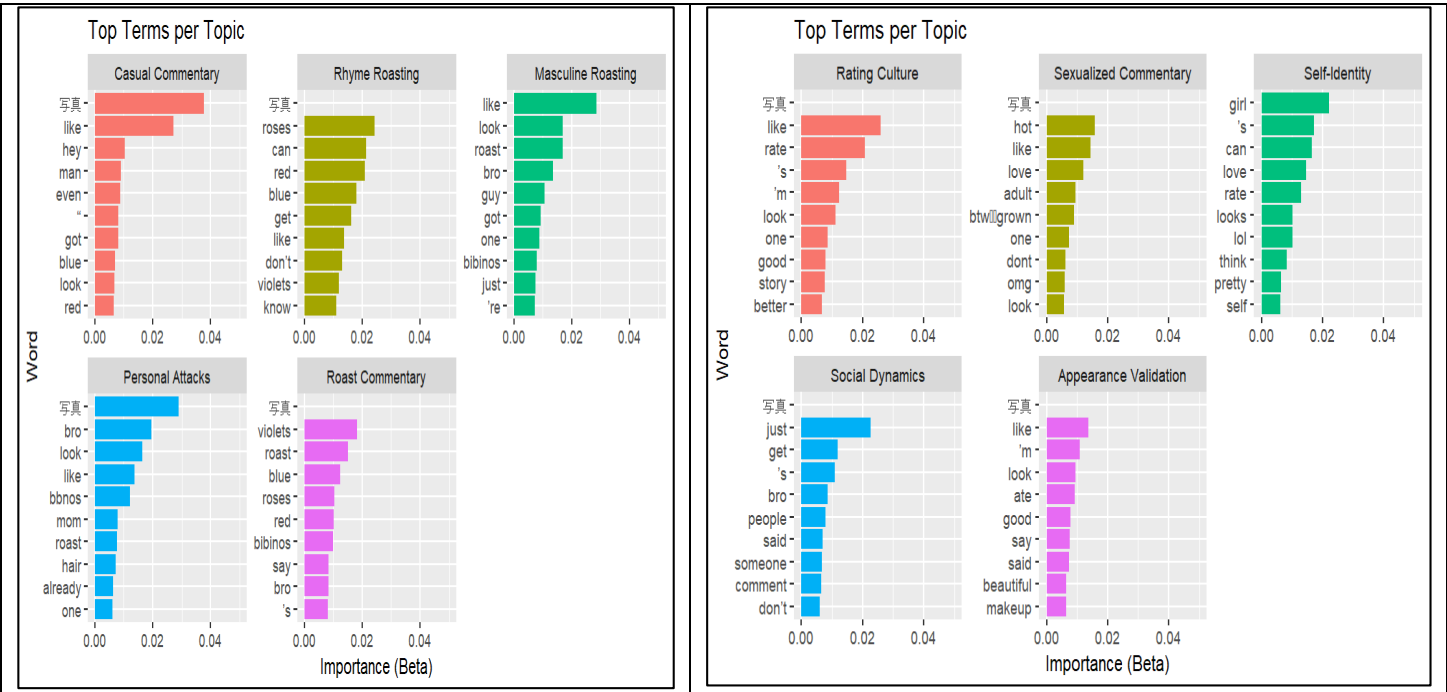
Top Terms per Topic

3. What is the overall sentiment expressed by TikTok users toward adolescents who participate in or are targeted by gamified bullying trends?

The analysis revealed clear patterns in how TikTok users responded to adolescents who participated in or were targeted by gamified bullying trends. For adolescent males, neutral sentiment appeared most frequently, followed by positive sentiment, with negative sentiment being the least common. A similar pattern emerged for adolescent females, with neutral responses being the most common, followed by positive, and then negative sentiment. However, a comparison between the two groups showed that posts targeting adolescent females received a higher proportion of neutral responses and fewer negative reactions than those targeting adolescent males. These results suggest a gendered difference in audience reception, with female adolescents encountering less negativity and more neutral engagement than their male counterparts when involved in gamified bullying interactions.

Adolescent males	Adolescent females

V.   DISCUSSION

This section begins by comparing differences in both the extent and style of cyberbullying comments directed at adolescent males and females when they engage in gamified cyberbullying on TikTok in the U.S. It then outlines the findings from the sentiment analysis and highlights the main themes identified in user comments. The analysis revealed that non-cyberbullying comments substantially outnumbered cyberbullying comments in gamified trends on TikTok that target both adolescent males and females. TikTok has significantly expanded its safety infrastructure, with automated moderation systems removing over 96% of violative content before it receives any views in 2024 (Cornell Social Media Lab, 2021, March 30). Additional safety tools, such as offensive comment filters, restricted mode for mature content, and default private settings for users under 16, further limit opportunities for harmful interactions (Hinduja & Patchin, 2023). The role of bystanders may also contribute to these patterns. Prior research suggests that active bystander intervention can suppress bullying behavior, reduce harm to victims, and strengthen prosocial norms among other users (Wang, 2021). Gamification features built into TikTok's design may reinforce these effects by promoting engagement through the satisfaction of competence, autonomy, and relatedness needs (Hristova et al., 2020). Moreover, platforms that foster strong social ties tend to report lower rates of cyberbullying (Ni et al., 2025). In this context, the combination of technical safeguards, prosocial community behaviors, and gamification-driven engagement likely plays a role in sustaining predominantly non-cyberbullying interactions within these trends. Both adolescent males and females experienced significantly more sexualization than expected. Both groups experienced significantly less normalization of bullying, peer invalidation, supportive comments, sarcasm/mockery, gatekeeping, gendered harassment, and public shaming tactics than expected. Research shows that 17% of teens have received unsolicited explicit images, and 7% have had explicit images of themselves shared without consent (Vogels, 2022, December 15). TikTok's algorithmic curation and visual-first format may unintentionally amplify sexualizing content. Although the platform offers tools such as "Restricted Mode" to limit sexual and violent material, these safeguards are imperfect, and sexually suggestive content can still appear in user feeds (Hinduja, 2025, August 6). The gamified nature of TikTok trends may further contribute to this issue, as trends emphasizing physical appearance or performance elements can incentivize participation that prioritizes engagement over appropriateness. While TikTok's anti-cyberbullying measures, such as comment filters and prompts to reconsider offensive posts, appear effective in reducing traditional forms of harassment (Mathioudakis, 2020, June 10), gamification can also create environments where appearance-based content receives disproportionate attention, increasing the likelihood of sexualized responses (Hristova et al., 2020; Shahzad et al., 2023). In this way, the competitive and performance-oriented structure of gamified trends may unintentionally encourage content that draws sexualizing attention. The frequently discussed topics reveal clear gendered patterns in how cyberbullying manifests within gamified contexts. Males' content

tended to attract more performance-based and competitive harassment, while females' content more often drew appearance-focused and sexualized commentary aimed at undermining self-worth and social acceptance. Prior research indicates that adolescent males are more likely to engage in cyberbullying than females, with aggressive behaviors being more male driven (Kao, 2021, March 30; Fichman & Amidu, 2025). However, the specific targets and nature of harassment reflect entrenched gender norms. Cyberbullying often focuses on attributes such as physical appearance, but the expectations placed on males and females differ, with males judged more on performance and females on appearance (Vogels, 2022, December 15). Platform characteristics may further influence these dynamics, as variations in tie strength across social media networks are linked to differing levels of cyberbullying involvement (Ni et al., 2025). Group behaviors also play a role, with deindividuation and moral disengagement encouraging bystanders to participate in harmful actions (Macaulay et al., 2022; Fichman & Amidu, 2024). In gamified contexts, where participation is often collective and individual accountability is diminished, these gender-specific patterns of harassment may be intensified. The sentiment analysis revealed a gendered difference in audience reception, with female adolescents experiencing less negativity and more neutral engagement than males during gamified bullying interactions. Prior research identifies gender as a significant factor shaping cyberbullying experiences, with cultural expectations influencing both the perception of harassment and the ways audiences respond (Zhu et al., 2021). Cultural scripts that frame females as more vulnerable may prompt audiences to engage in more neutral or restrained ways as a form of protective behavior, while negative responses toward males may be normalized as part of acceptable competitive interaction. However, although female adolescents may face less overtly negative sentiment, they may still encounter different but equally harmful forms of treatment. These patterns highlight the need for intervention strategies that address the specific gendered dynamics of harassment within gamified environments. Building on these findings, the following section outlines key policy implications that can guide platform regulation, youth protection initiatives, and targeted prevention strategies to address cyberbullying within gamified social media environments.

Policy Implications and National Relevance

This research aligns closely with federal digital safety priorities, particularly the Kids Online Safety Act (KOSA) and ongoing Federal Trade Commission investigations into youth protection on social media platforms. The finding that over 90 percent of cyberbullying comments in TikTok's gamified trends involve sexualization provides critical evidence supporting KOSA's duty of care requirements, which mandate that platforms prevent harm to users under 17 (Kids Online Safety Act, 2023). The documented gender differences in harassment, with females facing appearance-based attacks and males subjected to performance-related harassment, offer specific guidance for developing targeted platform accountability policies. These results also support the Surgeon General's 2023 Advisory on Social Media and Youth Mental Health, which emphasizes the importance of researching how particular platform features affect adolescent mental health (U.S. Public Health Service, 2023). The implications of cyberbullying extend beyond online spaces, carrying significant economic consequences for national healthcare and educational systems. The Centers for Disease Control and Prevention reports that bullying can result in physical injury, emotional and social distress, self-harm, and even death, and is linked to increased risks of depression, anxiety, sleep difficulties, lower academic achievement, and school dropout (CDC, 2024, October 28). Reflecting the rise in cyberbullying alongside technological advances, many states have incorporated cyberbullying offenses into their laws, and schools are empowered either by these laws or through local policies to take disciplinary or other actions, especially when bullying affects student performance (U.S. Department of Health and Human Services, n.d.). With approximately 32 million U.S. adolescents using TikTok, our findings on harassment within the platform's most popular features provide a foundation for targeted prevention efforts that could produce substantial cost savings by mitigating the harmful effects associated with cyberbullying (Massarat et al., 2022, August 10). Overall, this research offers actionable insights for federal agencies including the Department of Justice's Internet Crimes Against Children Task Force, the Federal Communications Commission's platform regulation initiatives, and the National Science Foundation's computational social science programs, supporting evidence-based policy responses to the digital safety challenges affecting American youth.

VI. LIMITATION

The exclusive focus on English-language comments may not capture cyberbullying experiences among linguistically diverse U.S. adolescent populations, potentially overlooking harassment patterns in other languages. Furthermore, relying on proxy age indicators rather than verified documentation may introduce sampling bias affecting generalizability.

VII. CONCLUSION

This study fills a gap in the literature by examining cyberbullying dynamics within TikTok's gamified trends, focusing on adolescent males and females. It highlights the underexplored intersection of gender, gamification, and platform-specific harassment behaviors in a highly interactive social media environment. By analyzing cyberbullying comments in gamified contexts, the study shows how game-

like features, algorithmic amplification, and gendered audience responses shape patterns of harassment and sexualization. These findings offer important insights for developing gender-sensitive interventions, designing safer gamified features, and advancing digital literacy efforts to reduce harm among adolescent online communities. The analysis found that non-cyberbullying comments substantially outnumbered cyberbullying comments in these trends. However, both adolescent males and females experienced higher rates of sexualization than expected. Gendered patterns emerged in the nature of harassment: males faced more performance-based and competitive attacks, while females were more often targeted with appearance-focused and sexualized comments aimed at undermining self-worth and social acceptance. Sentiment analysis revealed that female adolescents received less negativity and more neutral engagement compared to males during gamified bullying interactions.

Future research could conduct longitudinal studies tracking cyberbullying patterns and psychological impacts over time, examining how gamified harassment influences offline behavior and mental health as adolescents transition into adulthood. Furthermore, future studies could explore how TikTok's algorithmic recommendation systems interact with gamification elements to influence the visibility and spread of cyberbullying content.

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