THEMATIC ANALYSIS OF YOUTUBE COMMENTS ON A CONTROVERSIAL NIGERIAN HIP-HOP MUSIC VIDEO: USING OPEN DATA TO BALANCE SOFT POWER WITH CONCERNS ABOUT DRUGS IN MUSIC

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ABSTRACT

Background: Music is a potential source of soft power for emerging economies, but musical content can also influence health-risk behaviors. Olamide's "Science Student" was a hip-hop song that was banned in Nigeria for the glamorization of substance use. However, the song and music video remained available online, which can provide valuable insights into how music videos influence audiences and how viewers respond to controversial content. *Objective*: To describe themes found in the comment section of Olamide's "Science Student" official video on YouTube. *Methods*: We extracted the top comments of a video titled "Olamide-Science Student (Official Video)", available on YouTube, manually in October 2023 using KoboToolbox. Two investigators independently assigned themes and sub-themes before comparing answers and reaching a consensus. One investigator then cleaned the data and allowed only two themes, each with one sub-theme, in the final data set. We then presented the findings with example quotes and descriptive statistics of the extracted comments' characteristics. *Results*: We were able to extract a total of 171 comments. The most common themes of the comments seem to be the admiration of the artist, the choreography, and the video. The choreography aspect seemed to be particularly prominent. We did not identify any comment as having a negative tone. The comments regarding the message in the video mostly interpreted the video as being against substance use and that the video turned the negativity amidst the public outcry into a positive creation. There were non-English comments, mostly in French and Portuguese, as well as comments in English by individuals who self-reported being from outside of Nigeria, mainly to express admiration for the song and the Nigerian people. *Conclusion*: The findings suggest that the music video was received positively online and viewers generally interpreted the message as anti-drug. However, potential selection bias due to the effect of the algorithms and the context of commenting on online contents, as well as issues related to generalizability, should be considered as potential limitations in the interpretation of the study findings.
Keywords: Thematic Analysis, Nigeria, Hip-hop, Olamide

INTRODUCTION

Music is a powerful cultural expression that transcends geographic and social boundaries, influencing public perceptions, attitudes, and behaviors. In global politics and culture, **soft power** refers to the ability to enact change in politics and the economy through attraction and persuasion (Nye, 2012). This influence is often wielded through cultural means such as movies and music (Ogunnubi & Idowu, 2022). One domain of soft power is hip-hop music, which originated in the United States and has involved into a global cultural phenomenon that heavily influence youth culture worldwide (Agberotimi & Amenaghawon, 2022). In Nigeria, an emerging economy in West Africa with a young population, the hip-hop music industry is experiencing rapid growth and gaining global visibility (AFP, 2024). Afro-hip-hop has emerged as a dominant musical genre in Nigeria, resonating with young people due to its local relevance and representation of social-political issues from economic hardship to political dissent. The burgeoning music scene has the potential to bolster Nigeria's soft power and reinforce its leadership in the region (Ogunnubi & Isike, 2018).

However, as much as music can be a tool of influence and persuasion, it can also impact the public negatively, raising the need for censorship. Exposure to substance-related references in hip-hop music correlates with increased alcohol, tobacco, and drug use among young people (Miller et al., 2016). Afro-hip-hop itself has faced criticism for promoting anti-social behaviors, including substance abuse, quick wealth schemes, and sexual freedom (Agberotimi & Amenaghawon, 2022). Thus, censorship decision-makers in various countries face the delicate task of balancing the protection of the public from harmful messages while considering the soft power generated by the growing music industry.

A key example of this tension is the Nigerian hip-hop artist Olamide Gbenga Adedeji, whose controversial hit "Science Student" was banned by the Nigerian Broadcasting Corporation (NBC) (In-house West Africa, 2018). Critics argued that the video depicts substance abuse in glamorizing ways (Nwafor & Onuama, 2023). Yet, in his defense, Olamide maintained that the song's lyrics were meant to convey an anti-drug message, not the opposite (Igboanugo, 2018). A survey conducted among university students near Lagos, however, revealed that many interpreted the song as promoting substance abuse (Agberotimi & Amenaghawon, 2022).

Given the popularity of Afro-hip-hop and its influence on Nigerian youth, it is critical to understand how drug-related content, like that in "Science Student," is received by the public. Despite NBC's ban, the music video remains available on YouTube, the world's largest video-hosting platform and second most-visited website globally. YouTube provides an interactive space where individuals can express opinions via comments with a level of anonymity that reduces social desirability bias. These user comments offer rich unstructured text data suitable for thematic analysis, which involves coding, grouping, and identifying patterns in data (Jowsey et al., 2021). Thematic analysis of YouTube comments can thus provide valuable insights into how music videos influence audiences and how viewers respond to controversial content.

LITERATURE REVIEWS

This analysis of YouTube comments on a controversial Nigerian hip-hop music video draws upon several key theoretical frameworks: Social Identity Theory (SIT), Cultivation Theory, Bandura's Social Learning Theory (SLT) and Social Cognitive Learning Theory (SCLT). These theories collectively provide a lens through which to examine how media consumption, especially music videos, shapes audience perceptions and behaviors.

Social Identity Theory (SIT) suggests that individuals derive a significant portion of their identity from their association with specific social groups (Harwood, 2020). When individuals strongly identify with a group, they tend to perceive that group more positively than others (Harwood, 2020). Previous studies showed that social identity from peer groups influenced

substance use initiation among adolescents (Slater & Henry, 2013), and a similar type of influence can be found in popular media. In the context of music videos, SIT hypothesizes that viewers may interpret controversial content, such as drug use, based on their identification with certain social groups. For example, if drug use was portrayed as a part of the artist's lifestyle and viewers identified with the artist's social group, then the viewers might adopt similar behaviors to reinforce their group identity. However, SIT also provides a framework for understanding how music videos can operate as instruments of soft power, particularly when portraying marginalized behaviors. Regarding drug use, if the behavior is depicted as a form of resistance or coping strategy, marginalized viewers may internalize this behavior as a form of response to discrimination. Members of the marginalized group may interpret such a portrayal as an act of creating and fostering a shared sense of identity. Conversely, dominant groups might interpret these portrayals as deviant, deepening intergroup discrimination and stigmatization, and subsequently make public backlashes against the artist (Harwood, 2020).

Cultivation Theory (Gerbner & Gross, 1976) complements SIT by addressing how prolonged media exposure shapes individuals' worldviews (Shrum, 2017). According to this theory, the more media content individuals consume, the more their perceptions align with the realities presented in that media, often regardless of actual societal conditions. In music videos, the theory provides a framework that the repeated portrayal of drug use can shape the viewers' attitudes toward drug use. Viewers may develop distorted perceptions of drug use regarding prevalence and acceptance by the broader society (Shrum, 2017). Gerbner's concepts of mainstreaming and resonance in the Cultivation Theory are also critical in this regard. Mainstreaming suggests that heavy media consumers may develop similar worldviews regardless of their backgrounds, converging around shared perceptions due to consistent media exposure (Shrum, 2017). Resonance, on the other hand, suggests that media has a stronger impact on those whose real-life experiences mirror the content they consume. Findings from a panel survey in Belgium suggested that music video viewing among adolescents was associated with later risky driving behaviors, mediated through changes in attitude and intentions, in line with the Cultivation Theory mixed with the Theory of Planned Behavior (Beullens et al., 2012). In the case of Nigerian hip-hop videos, viewers with personal experience with drugs may experience a "double dose" effect, intensifying the media's influence on their attitudes and behaviors (Shrum, 2017).

Social Learning Theory (SLT) and Social Cognitive Learning Theory (SCLT), proposed by Bandura, provide further insight into how behaviors are learned and modeled through media (Tadayon Nabavi & Bijandi, 2012). SLT emphasizes that behaviors are acquired by observing others within a social environment, even in the absence of direct reinforcement. In the context of music videos, artists who engage in drug use may serve as powerful models for viewers, especially younger audiences, who may imitate these behaviors. Viewers experience vicarious reinforcement when they observe artists being rewarded or glamorized for their actions, increasing the likelihood of imitation (Tadayon Nabavi & Bijandi, 2012). SCLT builds on SLT by highlighting the cognitive processes involved in learning. Bandura proposed that viewers do not simply imitate behaviors passively; they actively interpret and evaluate them. Factors such as self-efficacy—the belief in one's ability to replicate behavior—play a crucial role in determining whether a viewer will imitate the actions depicted (Tadayon Nabavi & Bijandi, 2012). If viewers believe they can achieve the social rewards shown in the video, such as fame or status, they are more likely to replicate risky behaviors like drug use. Additionally, Bandura's theories suggest that repeated exposure to certain themes, such as drug use, can gradually shift viewers' moral judgments, making such behaviors seem more acceptable (Tadayon Nabavi & Bijandi, 2012). Music videos that glamorize drug use by linking it to success or luxury may alter viewers' perceptions of social norms over time. This process is driven by both external motivation (such as the social rewards depicted) and intrinsic motivation (such as personal

satisfaction or emotional relief), which together increase the likelihood of behavior adoption (Tadayon Nabavi & Bijandi, 2012).

These theories offer a robust framework for understanding how music videos, particularly those addressing controversial themes like drug use, shape audience perceptions and behaviors. By analyzing YouTube comments through these lenses, it becomes possible to explore how media influences social identity, perceptions of reality, and behavioral norms in response to content involving drugs.

RESEARCH METHODOLOGY

Study Design and Setting

We conducted an online qualitative study. Specifically, we studied comments on the official music video of Olamide's "Science Student" on YouTube.

Population & Sample

We extracted comment texts on Olamide's "Science Student" official music video on YouTube. We included all comments from registered users. We did not calculate a sample size. Rather, we collected comments and analyzed data to the point of saturation. We did not include the texts of the replies to comments as we deemed replies to be non-independent and the content could be a reaction to the original comment rather than the video.

Data Collection

We performed searched and identified the official music video for the song using the default search box on YouTube with the term "Olamide Science Student" and considered the video with the title "Olamide-Science Student (Official Video)" (https://www.youtube.com/watch?v=3nVkhp2xtHg) from the user "Olamide [note]" (whose channel description was "This is the official Youtube channel of OLAMIDE-BADDOSNEH, YBNL BOSS") as the official video. The authors had the consensus that the channel belonged to the artist and that the video was the original music video. We extracted data from the comments section of the video in October 2023 by manually sorting the comments by "Top Comments" and entering information using KoboToolbox for data entry according to the structure provided in the approved Case Record Form.

Data Management and Analysis

As our research question was new and rather unique in context. Thus, we did not develop a codebook *a priori*, unlike the procedures of a previous study (López et al., 2022). Using the spreadsheet of data entered via KoboToolbox, each of the two investigators (WW and SFA) independently assigned themes and sub-themes to all extracted comments, up to three themes and sub-themes per comment. We then merged the findings from the two investigators together, and the two investigators then met to identify the common theme and sub-theme for each comment (entry). One investigator (WW) with experience in quantitative data cleaning then cleaned the data to reduce redundancy, allowing only two themes, each with one sub-theme. We then compiled a report of the findings, including the identified themes and sub-themes identified through the consensus of the two investigators. We also extracted a quote with a high number of likes to provide examples of comments on each identified theme and sub-theme. We also used descriptive statistics to summarize the characteristics of the extracted comments.

Human Research Ethics

We received an exemption of human research ethical approval from the Human Research Ethics Committee, Faculty of Medicine, Prince of Songkla University (REC.66-364-18-2).

RESEARCH RESULTS

We were able to extract a total of the top 171 comments according to the YouTube algorithm (*Table 1*). The median age of the extracted comments at the time of extraction was 5 years, with a median number of 3 likes and 0 comments.

Table 1 Characteristics of the Extracted Top Comments (n=171 Top Comments)

Characteristic	Frequency (%) or Median (Q1, Q3)
Approximate age of comments in years; median (Q1, Q3)	5 (3, 5)
The presence of one or more emoticons	64 (37.6%)
Word counts; median (Q1, Q3)	13 (9, 21)
Number of likes; median (Q1, Q3)	3 (1, 18.5)
Number of replies; median (Q1, Q3)	0 (0, 0)

The most common themes of the comments seem to be the admiration of the artist, the choreography, and the video (*Table 2*). The choreography aspect seemed to be particularly prominent, as there were comments praising the choreographer, Kafayat Oluwatoyin Shafau or "Kaffy", for the work on the video. The investigators did not identify any comment as having a negative tone. In addition, there were comments that compared the images or choreography of the video to the Black Panther movie franchise as well as Michael Jackson's "Thriller". The comments regarding the message in the video mostly interpreted the video as being against substance use and that the video turned the negativity amidst the public outcry into a positive creation. Comments discussing symbolism in the video mostly interpreted the images as showing liberation from drug abuse. There were non-English comments, mostly in French and Portuguese, as well as comments in English by individuals who self-reported being from outside of Nigeria, mainly to express admiration for the song, as well as for the Nigerian people.

Table 2 Comments on Olamide's Science Students video by major theme and sub-theme

Theme	Subtheme	N	Description	Example Comments (Modified) with details of emoticons and number of likes and replies
Admiration – Artist	(None)	41	Generic praise or encouragement for Olamide	" *Nigerian songs on point* 🔥🔥 *// African music on point* 🔥🔥🔥 *// Olamide well done*" - Comment No. 1122; Likes = 454, Replies = 17
Admiration – Artist	Song of the Year 2018 reference	2	Congratulating Olamide on winning Song of the Year 2018	"***Congratulations*** *Olamide!* ***For winning song of the year 2018*** 🏆" - Comment No. 1037; Likes = 55, Replies = 0
Admiration – Artist	Olamide as the voice of the street	1	Referring to Olamide as the leader in the street pop genre	"*Olamide vraiment bravo pour ça, le travail est tellement propre !* ***King of street****NG* 🍻😆👟😎" (French, "Olamide real bravo for this, the work is so neat! King of street*NG* 🍻😆👟😎") - Comment No. 1101; Likes = 22, Replies = 0
Admiration – Artist	Fan loyalty	1	Expressing fan loyalty to the artist	"***If olamide was going to contest for anything I'll vote for him****... I think he's got the power and brains to be a leader.. well done olamide*" - Comment No. 1108; Likes = 18, Replies = 0
Admiration- Artistic Quality	(None)	12	Recognition of the video as a work of art and the admiration thereof	"***This whole video is just art****. Underappreciated art...*" - Comment No. 1016; Likes = 37, Replies = 0
Admiration- Artistic Quality	Creativity	2	Admiring the sense of creativity of the video	"*I couldn't stop saying 'Wow' for almost 2 minutes.* ***This is creativity at the highest level****. This is dope. This is fire!!!! Best music video of the year hands down*" - Comment No. 1049; Likes = 10, Replies = 0

Theme	Subtheme	N	Description	Example Comments (Modified) with details of emoticons and number of likes and replies
Admiration-Artistic Quality	Cultural authenticity	2	Admiring the cultural authenticity of the video	"*I'm Togolese and proud of you guys.not only **You enhanced but you always risen the authenticity of the Africans culture** // ᴛɢ♥ɴɢ God bless*" - Comment No. 1002; Likes = 63, Replies = 0
Admiration-Choreography	(None)	35	Admiration of the dance scene in the latter part of the video or the choreography	"*That group dance at the end was everything*" - Comment No. 1021; Likes = 351, Replies = 4
Admiration-Choreography	Admiration of Kaffy	4	Admiration of Kafayat Oluwatoyin Shafau, or "Kaffy", for the choreography of the dance scene.	"*I always come here to watch the commendable choreography. **Big ups to Kaffy and her crew** and every dancer in this video. The director too deserves praise*" - Comment No. 1018; Likes = 30, Replies = 0
Admiration – Music	(none)	11	Admiration of the song, the sound, or the music in general	"***Bad ass song**!!! The choreography is a killer.*" - Comment No. 1063; Likes = 4, Replies = 0
Admiration – Music	Addictiveness	3	Admiration of the song with a remark regarding the desire to keep listening	"*This song is love! // **Can't get enough listening and dancing***" - Comment No. 1059; Likes = 2, Replies = 0
Admiration – Music	Afropunk genre	1	Admiration of the music and identifying the song with the Afropunk genre	"***Most underrated Afro punk song**!! Quote me!!Came back 12/22!#1ᴢᴍɢʜᴜsᴜsfan!!!* 🔥🔥🔥🔥🔥" - Comment No. 1160; Likes = 2, Replies = 0
Admiration – Unspecified	(None)	9	Expression of admiration without specifying the detail	"***One of the best videos I have seen in years.** From the dancing, the imagery, the message, the song to sisters and brothers in formation, I can't stop watching it. Love this!*" - Comment No. 1012; Likes = 31, Replies = 0
Admiration-Uplifting nature	(None)	2	Positive comment on the uplifting nature of the song	"*Une chanson très éducative et **édifiante** pour cette génération*" (French, "A very educative and **uplifting** song for this generation") - Comment No. 1040; Likes = 8, Replies = 0
Admiration – Video	(None)	21	Admiration of the video in general	"***I love it.** I'm American so I don't understand the words but the video is universal. Choreography is* 🔥🔥*!!*" - Comment No. 1065; Likes = 234, Replies = 14
Admiration – Video	Deserving of an award	4	Admiration of the video together with a remark that the video deserves an award	"***This video deserves an award**....awesome job!*" - Comment No. 1067; Likes = 88, Replies = 3
Admiration-Video	Addictiveness	3	Admiration of the video together with a remark that the video is addictive	"***I can never stop playing this hit**. It keeps blowing up my mind.* ☺😂😂" - Comment No. 1048; Likes = 10, Replies = 0
Admiration – Video	Informative	1	Admiration of the video with a remark that the video was informative	"***This is fucking amazing** , Olamide kudos , you finished this one, very informative and the end was speechless it took my breathe away, love you bro, nija for sound music*" - Comment No. 1115; Likes = 3, Replies = 0
Admiration – Video	Video as interpretation of the song	1	Admiration of the video with a remark that the video helps to interpret the song	"*A masterpiece. **I had to see the video to appreciate the song**.*" - Comment No. 1138; Likes = 1, Replies = 0

Theme	Subtheme	N	Description	Example Comments (Modified) with details of emoticons and number of likes and replies
Admiration – Video	Symbolism	1	Admiration of the video with a remark that the video is symbolic	"*This video is so symbolic. Love it.*" - Comment No. 1142; Likes = 2, Replies = 0
Comparison to Black Panther	(none)	2	Comparison of the video images or choreography to the Black Panther movie franchise	"*This video should have been adapted as a small scene into the Black Panther film.... am so proud of Olumide Vevo, the extravagant drone shots , flawless cheorography footwork, authentic African costumes and the vibrancy of the dance nuances captures the whole nine yards of how the spirit of African music should be represented. its resonance is consistent with the standard of high end international musical brand. big thumps up for the director and the content director who in a very palpable subtle manner was able to infuse the very core essence of this music video message-(SAY NO TO DRUGS) without disturbing the esthetic flow of the ambience and delight ... am giving this video 5 Star ratings.......*" - Comment No. 1003; Likes = 248, Replies = 2
Comparison to other music videos	(None)	1	Comparison of the video to other videos from the same region or genre	"*Wow!! If this isnt the best music video out of Nigeria if not Africa then I don't know what is... incredibly well crafted and executed* 🏆💧" - Comment No. 1031; Likes = 18, Replies = 2
Comparison to Thriller	(None)	8	Comparison of the video images or choreography to Michael Jackson's "Thriller"	"*Thriller meets Wakanda meets Run the World with proper Naija flavor. Love it* 💧💧💧" - Comment No. 1011; Likes = 67, Replies = 0
Cross-border admiration	(None)	9	Expression of admiration by a commenter who identified as being non-Nigerian	"*choreograph 10/10 // rhythm 10/10 // song 9/10 // i'm Ivorian and i'm from ivory coast but Nigerian songs can kill me. i love nigeria*" - Comment No. 1005; Likes = 321, Replies = 8
Linguistic identity	Language in source of pride	1	Expression of pride in the use of Yoruba language	"*I love how olamide is proud of his language. I don't understand shit but I feel the vibe in his music.* 🐎🐎" - Comment No. 1010; Likes = 300, Replies = 5
Message	Anti-drugs / "Say no to drugs"	4	Opinion that the video's main message was to abstain from drug and/or alcohol use	"*Okay from the view I was thinking the dancers would start the scene first but I was flabbergasted. Clear message from the video-say no to drugs! Olamide showed he liberated those people from the mental home by breaking that wall. Really impressed! Creativity 💯💯 // Thank you baddoSneh! // Say no to drugs everyone! God bless!*" - Comment No. 1007; Likes = 344, Replies = 5
Message	Deep meaning behind the song	1	Opinion that the song has a message with a deep meaning	"*the depth of the meaning behind song and video...levels of deliverance for the young G*" - Comment No. 1062; Likes = 1, Replies = 0
Message	Drugs and hallucination	1	Opinion that the song has a message about	"*This is by far the best african music video i have ever watched. The whole concept,*

Theme	Subtheme	N	Description	Example Comments (Modified) with details of emoticons and number of likes and replies
			drugs and hallucination, but did not specify whether the message was positive or negative	*chereography, pictures and all is brilliant and **tho i don't under stand what he's saying, my idea of it is about drugs and the hallucinations**. BRAVO Olamide BRAVO!!!*" - Comment No. 1092; Likes = 3, Replies = 0
Message	Positive reception	1	Positive reception of the message in the song, unspecified	"*Great song **with a very relevant message!**☐ // we love you Olamide!* ❤❤" - Comment No. 1033; Likes = 3, Replies = 0
Message	Story in the song	1	Opinion that the song tells a story	"*I hope this gets big in the US the choreography and the video it was done so artistic and **tells a great story** I love it!!!*" - Comment No. 1015; Likes = 6, Replies = 0
Message	Suitable for youths	1	Opinion that the song is suitable for youths	"*Loving the creativity behind the art....* ❤❤*Thumps up Olumide **great piece for Youths out there***" - Comment No. 1027; Likes = 7, Replies = 0
Message	Unity	1	Opinion that the song promotes unity	"*Genius // **Anything to do with unity I'm in**. // Good representation guys // Keep the good work up*" - Comment No. 1156; Likes = 1, Replies = 0
Message	Unspecified	8	Remark about the message in the song or video, unspecified nature	"*I love how he turned all the negativity around him to something positive and **was able to still express his initial message before people twisted it around** and I also loved how he dedicated most of the portion of the video to highlight the talent of the dancers instead of just focusing on himself. If people still don't get the message and story told from this video then they're just fools*" - Comment No. 1073; Likes = 177, Replies = 14
National Pride – Nigeria	(None)	1	Expression of Nigerian national pride	"*This is the best video I have ever watched from Olamide,I love u bro **proud Nigerian**! 2040 I will still be here*" - Comment No. 1074; Likes = 11, Replies = 0
Nostalgia	(None)	3	Expression of nostalgia or reference to the age of the song but not the year of the comment	"*i used to be obsessed with this song **i cannot believe it's 2 years old now***" - Comment No. 1117; Likes = 11, Replies = 0
Praise for Nigeria or Africa	(None)	4	General admiration of Nigeria or Nigerians or African people	"*2022 and i still come back here for the group dance routine, **it really showcased how Nigeria holds GREAT talent we have yet to witness**. Olamide and everyone involved in the appearance and production of this clip SALUTE* ✋ ✋" - Comment No. 1001; Likes = 189, Replies = 5
Praise for Nigeria or Africa	Praise for Nigeria / Naija	7	Admiration of Nigerian people and culture	"***Nigerian songs on point*** 🔥 🔥 *// African music on point* 🔥 🔥 🔥 *// Olamide well done*" - Comment No. 1122; Likes = 454, Replies = 17
Praise for Nigeria or Africa	Trans-border collaborations	2	Mention of African unity or collaborations among African artists	"***This is how good it could and would be if all of Africa can come together as one people, one voice, and one nation**. #UNITEDAFRICA //-Dr. Arikana Chihombori-Quao*" - Comment No. 1104; Likes = 6, Replies = 0

Theme	Subtheme	N	Description	Example Comments (Modified) with details of emoticons and number of likes and replies
Public Outcry	Turning negative into positive	2	Mention how Olamide turned the negativity amidst the public outcry into a positive creation	"*I love how he turned all the negativity around him to something positive* and was able to still express his initial message before people twisted it around and I also loved how he dedicated most of the portion of the video to highlight the talent of the dancers instead of just focusing on himself. If people still don't get the message and story told from this video then they're just fools" - Comment No. 1073; Likes = 177, Replies = 14
Public outcry	divergent opinion	1	Comment regarding the divergent opinion regarding the song or the video	"*the people saying it was over hype are the ones who don't want Nigeria music video to move forward*. they are all expecting heavy shaku shaku dance instead of the message it pass across. who is with me on this" - Comment No. 1099; Likes = 41, Replies = 1
Relatability	Relating to the video as a student in STEM fields	2	Comment by students in the science, technology, engineering, or mathematics (STEM) on their admiration of the song	"*i am a science graduate* and i'm loving this song much love from South Africa" - Comment No. 1171; Likes = 17, Replies = 2
Shaku Shaku Dance	(None)	2	Reference to the Shaku Shaku dance featured in the video	"*What a video clip, thumbs up Olamide. You nailed it and your dancers uniquely did well, Africans are so endowed... **Can't wait any longer to learn the talked about shaku shaku dance**.... More likes for me if you love the clip*" - Comment No. 1051; Likes = 16, Replies = 0
Song Ranking	(None)	1	Mentioning of the countdown ranking	"*Olamide never dissapoints... **this will be number one on the countdown... Dont say i didn't tell you so.***" - Comment No. 1020; Likes = 43, Replies = 0
Symbolism	Danger of and liberation from drug abuse / mental illness	2	Analysis of symbolism in the video as either showing the danger of drug abuse / mental illness and liberation thereof	"*Okay from the view I was thinking the dancers would start the scene first but I was flabbergasted. Clear message from the video- say no to drugs! **Olamide showed he liberated those people from the mental home by breaking that wall.** Really impressed! Creativity* 💯💯 *// Thank you baddoSneh! // Say no to drugs everyone! God bless!*" - Comment No. 1007; Likes = 344, Replies = 5
Timelessness	(None)	15	General timeless / classic nature of the music or the video	"*Who else is watching this in 2021* 😊 ***Baddo makes timeless music*** 🎶 😎" - Comment No. 1070; Likes = 219, Replies = 39
Timelessness	Choreography	1	Timeless / classic nature of the choreography	"***2019 still feeling the choreography !!!!***" - Comment No. 1091; Likes = 14, Replies = 0
Underratedness	Deserving of an award	1	The video or the song is under-rated and is worthy of an award	"*I think this music video is **so underated it deserves an award***" - Comment No. 1004; Likes = 71, Replies = 2
Underratedness	Growth of song outside Nigeria	1	The video or the song is under-rated and is worthy of growing outside Nigeria	"*I hope this gets big in the US the choreography and the video it was done so artistic and tells a great story I love it!!!*" - Comment No. 1015; Likes = 6, Replies = 0

Theme	Subtheme	N	Description	Example Comments (Modified) with details of emoticons and number of likes and replies
Underratedness	Deserving of a high number of views	1	The video or song is under-rated and is worthy of a higher number of views	"*This video **deserves more than 1OOM views***" - Comment No. 1089; Likes = 293, Replies = 3

Bold texts denote parts deemed by the authors to be relevant to the identified theme and sub-theme.

DISCUSSION & CONCLUSION

In this qualitative study, we characterized the comments on a popular but controversial Nigerian hip-hop music video and used thematic analysis to describe the audience's interpretation of the song, as well as the extent to which the song contributed to Nigeria's soft power. We found that the comments were overwhelmingly positive and expressed admiration for the artist, the music, the video images, and the choreography. Commenters also interpreted the music video and the song as being against drug use. The findings of these studies are relevant for stakeholders in media-related issues as well as those who work in substance use and behavioral health.

From a soft power perspective, the overall positive reception of the music video emphasizes the potential for Nigerian artists to shape public perception of Nigeria on global platforms like YouTube, and strengthen Nigeria's cultural influence despite local controversies. It should be noted that YouTube allows users to express opinions with a relatively high degree of anonymity, enabling more free expression without anxiety about potential backlashes like in offline settings (Jowsey et al., 2021). The majority of the comments praised artistry, choreography, and video production, particularly emphasizing Kaffy's work, which aligns with the notion of soft power (Nye, 2012). The comments also did not exhibit a negative tone despite the public backlash that the song received when it was first released. The presence of comments in multiple languages, including French and Portuguese, reflects the transnational appeal of Nigerian music and its soft power, as it engages audiences beyond the country's borders (Ogunnubi & Isike, 2018). This aligns with the growing recognition of Nigeria's music industry as a vehicle for projecting the country's influence internationally (Ogunnubi & Idowu, 2022).

A significant number of comments interpreted the video as being anti-drug, aligning with Olamide's defense that the song's message is against substance abuse (Igboanugo, 2018). The interpretation of the symbolism in the video in a number of comments could be influenced by the audience's sense of identity as per the Social Identity Theory. A previous study found that in social identities, even among drug users, can shift when the user's behavior changes from casual use, to having developed a disorder, to being in recovery (Dingle et al., 2015; Sibley et al., 2023). Audience members could have largely interpreted the symbolism in the video as being aligned more closely with the identity of someone being liberated from use drug than the glorification of drug use. The interpretation of the symbolism in the video also aligns with Bandura's Social Cognitive Learning Theory (Tadayon Nabavi & Bijandi, 2012). The viewers' interpretation of the video as promoting anti-drug messages may indicate that Olamide successfully communicated his intended message to at least a part of his audience. However, this does not deny the concerns raised in previous research, which shows that media portrayals of substance use can have real-world implications on youth behavior. Repeated exposure to substance-related references in hip-hop music is linked to increased alcohol, tobacco, and drug use among youth (Miller et al., 2016). Given the popularity of Afro-hip-hop among Nigerian youth, the risk of glamorizing drug use through music videos remains a critical concern. The interplay between creative freedom and social responsibility (Nwafor & Onuama, 2023), is

particularly important in this regard. There remains the need for a broader discussion regarding how media representations of drug use affect social norms and behaviors, especially among vulnerable youth. Cultivation Theory (Shrum, 2017) hypothesizes that repeated exposure to music videos portraying drug use may cultivate the normalization of deviant behaviors. The positive and artistic interpretations in the comment section do not negate the potential that younger and more impressionable viewers may still be drawn to the portrayal of a subculture associated with drug use or the potential that music videos can cultivate distorted perceptions of reality where drug use behaviors become normalized.

The potential novelty of this study was the use of thematic analysis to describe the public audience's interpretation of a controversial song and music video. However, a number of limitations should be considered in the interpretation of the study findings. Firstly, the display of top comments that we extracted could have been influenced by YouTube's algorithms, as well as the use of computer programs to send out spam messages ("spam bots"). This phenomenon implies that both selection bias and information bias could have been present in the study findings: the algorithm could have purposively selected comments with a large number of reactions, and spam bots could have provided AI-generated comments rather than comments from human viewers. Future studies should consider making comparisons of randomly selected comments vs. top comments to assess the extent to which such biases were indeed present. Secondly, comments are voluntary and not mandatory among the viewers, and those with negative reactions to the "Science Student" video might have chosen not to share their views to avoid conflicts, potentially introducing additional selection bias. Lastly, we only analyzed comments extracted in October 2023, which limited the generalizability of our findings to other periods.

In conclusion, our thematic analysis of comments on an official music video of a hip-hop song banned in Nigeria due to references to drug use showed a body of largely positive comments regarding the video's artistic elements and suggested that many viewers interpreted the music video's message as being anti-drug. We also found positive comments in languages other than English (e.g., French, Portuguese) and English comments written in the context of being from outside of Nigeria, suggesting that the song and other products of the Nigerian entertainment industry helped to expand Nigeria's soft power. The findings of this analysis contribute to the broader discourse on how Nigerian artists can balance the freedom to express controversial themes while considering the societal impact of their work. In that regard, the positive remarks do not preclude potential harms associated with the portrayal of drug use in music videos, especially among impressionable adolescents and youths. As the global reach of Nigerian music expands, discussions regarding soft power versus potential harms from the entertainment industry will become even more critical in shaping the future of the industry and its role in both cultural diplomacy and behavioral health.

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