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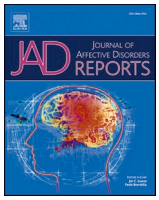

Research Paper

YouTube and TikTok as a source of medical information on dissociative identity disorder

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ABSTRACT

Background: Dissociative Identity Disorder (DID) is a rare condition that causes alternation of at least two separate personality states and has a prevalence of less than 1% in the general population. This study aims to appraise the social media platforms, YouTube and TikTok, as sources of medical information on DID.
Methods: YouTube and TikTok were queried using the following search phrases: "Dissociative Identity Disorder," "Multiple Personality Disorder," and "Split Personality Disorder." The top 60 videos by views for YouTube and likes for TikTok were selected from each search term on each platform. Videos were reviewed by four independent reviewers using a modified DISCERN (mDISCERN) Scale, Global Quality Scale (GQS), and they were further classified as useful, misleading, or neither useful or misleading.
Results: Number of videos that met criteria were 60 YouTube videos and 97 TikTok videos. After classification, 51.7% of YouTube videos were useful while only 5.2% of TikTok videos were useful. A significant difference was found between (mDISCERN and GQS) score and the video source, type of content, and classification ($\alpha < 0.05$).
Limitations: This study focused exclusively on English videos. Additionally, it did not evaluate other social media platforms that are used worldwide.
Conclusion: This results of this study show the need for healthcare professionals and organizations to not only create content of high quality but increase engagement on social media platforms, particularly TikTok, in order to educate users on DID.

1. Introduction

Dissociative Identity Disorder (DID), formerly known as multiple personality disorder, is a psychiatric condition characterized by the presence of two or more distinct identities or personality states within an individual (American Psychiatric Association [APA], 2022). DID has a prevalence of 1% and appears mostly in emergency psychiatric settings or outpatient psychiatric clinics (Dorahy et al., 2014). Previous studies have shown a rate of 14% in a university emergency department in Istanbul (Şar et al., 2007) and 6% in an outpatient psychiatric unit in New York City (Foote et al., 2006). A meta-analysis of 98 studies found a prevalence of dissociative disorders to be 11.4% within college populations, which is consistent with the prevalence of 12.1% with regard to experiencing four or more types of adverse experiences in childhood (Kate et al., 2020).

One of the defining features of DID is the presence of ongoing gaps in memory, which may extend to everyday events, personal information, and even past traumatic experiences that can result in significant distress that causes disruptions in social, occupational, and other crucial areas of life (American Psychiatric Association [APA], 2022). DID has made its way into popular media such as film, television, and more recently, social media platforms. There has been a growing trend of adolescents presenting en masse with illnesses, such as DID, which can be attributed from viewing illness-related content by social media influencers (Giedinghagen, 2023). The growing popularity of DID in media and social networks could be explained by individuals who try to make meaning of their emotional conflicts, attachment problems, and difficulties in establishing satisfactory relationships, as they may find the DID concept attractive (Pietkiewicz et al., 2021). Individuals could find a sense of community online of people with a shared experience (Christensen, 2022). This sense of community and meaning could provide insight into the intentions behind videos posted about DID.

Social media platforms, such as YouTube and TikTok, have increased in popularity and are used to share and obtain information. While social media provides an accessible platform for education, it comes with the risk of miseducation, particularly medical information. This study aims

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to appraise the social media platforms, YouTube and TikTok, as sources of medical information on DID. While the previously mentioned studies have acknowledged the rise in DID on social media, especially the influence videos on social media can have on individuals, they do not assess the quality and reliability of social media depictions of DID. The quality and reliability of content that is found on YouTube and TikTok has the potential to contribute to stigmas and misinformation, as more individuals use social media platforms. This is concerning as individuals with dissociative disorders are already at risk for both external and internal stigmatization (Gleaves and Reisinger, 2023) which may be a barrier to treatment (Nester et al., 2022). Furthermore, social media platforms are utilized internationally by health professions students as educational resources (El Bialy and Ayoub, 2017) where misinformation may perpetuate already existing skepticism regarding dissociate disorders (Brand et al., 2016). There is no information on the number of high quality and useful content available on DID. Therefore, this study aims to analyze the social media platforms of YouTube and TikTok as sources of medical information on DID in regard to quality, reliability, and usefulness.

2. Materials and methods

2.1. Search strategy

Between November 2022 and December 2022, we conducted a comprehensive search in the SCOPUS and PubMed databases for studies published in English. Various combinations of search terms were employed for each category. To identify relevant studies pertaining to DID, keywords and terms such as "Dissociative Identity Disorder," "split personality," and "multiple personality disorder" were utilized. In order to explore the role of YouTube and TikTok as platforms for medical information, keywords such as "social media," "YouTube," and "TikTok" were incorporated. Following a meticulous review of the available studies, we found no research that specifically examined YouTube and TikTok as sources of medical information on DID in terms of quality, reliability, and usefulness.

2.2. Selection criteria

To examine the popularity of YouTube and TikTok online searches related to DID over the past twelve months in the United States, three specific terms were analyzed using Google Trends. These terms, namely "Dissociative Identity Disorder," "split personality," and "multiple personality disorder," were chosen due to their high search volume compared to similar terms. To extract videos for analysis, we utilized the YouTube and TikTok platform and performed a search using the aforementioned three terms in December 2022. The videos were then sorted using the "most views" function for YouTube and “most liked” function for TikTok, ensuring that the most widely viewed content within each search term was included in our dataset. YouTube had the option to search for videos by relevance, views, and likes. TikTok had the option to search for videos by only likes or relevance. In the form of a cross-sectional study, we utilized the Kruskal-Wallis one-way analysis of variance to analyze the data. A power of analysis test was employed to determine the required sample size for achieving an alpha level of < 0.05. As a result, the top 60 videos were selected for each term, totaling 180 videos across all three terms.

After selecting 180 videos, videos were excluded using the following criteria: 1) Videos unrelated to DID, 2) Videos not in English, 3) Duplicate videos, 4) Videos without audio, 5) Videos under one minute (for YouTube only), 6) Videos longer than 25 min (for YouTube only), and 7) Videos with less than 1000 views (for YouTube only) as these videos reached less viewers and had less potential to spread information. To extract relevant data, the selected videos underwent a thorough review conducted by four independent reviewers. The inter-reviewer reliability was assessed using Cohen’s Kappa coefficient score. The following information was extracted from all the videos: date of upload, number of views (available for YouTube videos only), video length, number of likes, number of comments, video source (psychiatric physician, other healthcare provider, health organization, other organization, educational organization, film/TV, podcast, or independent user), and video content (art, comedy skits, discussions, educational content, films, interviews, compilation videos, and personal stories).

2.3. Assessment of video quality and reliability

To assess the quality and reliability of medical information presented in the selected YouTube and TikTok videos on DID, we employed a modified version of the DISCERN scale (mDISCERN) (Charnock et al., 1999) and the Global Quality Scale (GQS) (Bernard et al., 2007). The mDISCERN tool has been extensively validated and is widely recognized as one of the most commonly utilized measures for evaluating electronic healthcare information (D’Souza et al., 2021). Similarly, the Global Quality Scale has been employed in previous studies to assess the overall quality of online content (Bernard et al., 2007). For evaluating the quality and reliability of the videos, we utilized the mDISCERN tool (Table 1). A summative score of 3 or higher on the mDISCERN scale signified a highly reliable video. Additionally, the Global Quality Scale was employed to assess the overall quality of the videos, as depicted in (Table 2).

2.4. Data analysis

To assess the precision of medical information presented in the reviewed videos, we developed a newly adapted scoring scale derived from a previous research project (D’Souza et al., 2021). The videos underwent classification into three categories: useful, misleading, or neither useful nor misleading. Each of the four reviewers independently scored and classified all the videos, ensuring the elimination of bias from other reviewers. In case of any tie in classification among the reviewers, the videos were planned to be re-reviewed to assess for any missed information on a second watch; however, no ties were found during the video classification process.

Criteria for useful videos include 1) An accurate statement on at least one portion of the definition of DID per the DSM-V-TR, 2) An accurate statement on at least one portion of the mechanism/pathogenesis of DID, and 3) An accurate statement on at least one portion about the treatment/management of DID. To assess if there was a correct statement about the definition, the definition of PPD from the Diagnostic and Statistical Manual of Mental Disorders 5th Edition Text Revision (DSM-V-TR) was utilized, which defines DID as a disruption of identity, wherein individuals experience two or more distinct personality states that may be likened to possession in certain cultures. This disruption involves a significant discontinuity in one’s sense of self and agency, accompanied by changes in emotions, behavior, consciousness, memory, perception, cognition, and sensory-motor functioning. These symptoms may be observed by others or self-reported. Additionally, recurrent gaps in memory for everyday events, personal information, or traumatic experiences are present, which cannot be attributed to normal forgetfulness.

To assess if there was an accurate statement of the mechanism/pathogenesis, we utilized a StatPearls article on the National Center for Biotechnology Information website, which stated that for the

Table 1
mDISCERN Score.

1 point	Are the aims clear and achieved?
1 point	Are reliable sources of information used?
1 point	Is the information presented balanced and unbiased?
1 point	Are additional sources of information listed for patient reference?
1 point	Are areas of uncertainty mentioned?

Table 2
Global Quality Scale.

1	Poor quality, poor flow, and most information are missing, so it is not helpful for patients.
2	Generally poor, with some information given but of limited use to patients.
3	Moderate quality and some important information are adequately discussed.
4	Good quality, good flow, and most relevant information are covered, making it useful for patients.
5	Excellent quality and excellent flow, making it very useful for patients.

pathogenesis of DID to occur, there must be four predisposing factors present for dissociation, including an ability to dissociate, overwhelming traumatic experiences that distort reality, creation of alters with specific names and identities, and lack of external stability, which leads to the child's self-soothing to tolerate these stressors (Mitra et al.,. 2022). To assess if there was an accurate statement about the treatment/management, we utilized the same StatPearls article, which describes treatment approaches for DID in a three-level approach. The first is establishing safety, stabilization, and symptom reduction, the second is confronting, working through, and integrating traumatic memories, and the third is identity integration and rehabilitation (Mitra et al.,. 2022).

Criteria for misleading videos include 1) An inaccurate definition on at least one portion of the definition of DID per the DSM-V-TR, 2) An inaccurate statement on at least one portion on the mechanism of DID, and 3) An inaccurate statement on at least one portion on the treatment/management of DID. Criteria for videos classified as neither useful nor misleading include 1) No definition of DID, 2) No statement about the mechanism of DID, and 3) No statement on the treatment/management of DID. This scoring model was adapted from a recently published research project (D'Souza et al., 2021). With this criteria, videos were classified as useful, misleading, or neither useful nor misleading.

2.5. Statistical analysis

Given our sample size of over 50 videos for both social media platforms, we employed the Kolmogorov-Smirnov normality test to assess the normality assumptions of the numerical variables. Given the non-normal distribution of our data, we chose a nonparametric statistical approach for our analysis. Specifically, we utilized the Kruskal-Wallis test to investigate potential differences in video length, number of views, number of likes, number of comments, mDISCERN score, and GQS score based on both video source and video classification. Furthermore, we conducted a Spearman correlation analysis to examine the relationship between mDISCERN and GQS scores. To classify the correlation coefficient, we categorized r values as follows: 0–0.24 as poor, 0.25–0.49 as moderate, 0.50–0.74 as strong, and 0.75–1.0 as very strong. To assess the inter-reviewer agreement among the four independent reviewers, we calculated the Cronbach α value. We classified the α values as unacceptable if < 0.5, poor if $0.5 \leq \alpha < 0.6$, acceptable if $0.6 \leq \alpha < 0.7$, and excellent if $0.7 \leq \alpha < 0.9$. We considered p-values < 0.05 as statistically significant in our analyses. Lastly, a paired sample *t*-test was utilized to determine any difference between average mDISCERN and GQS scores between YouTube and TikTok.

2.6. Ethics statement

As this study solely involved the evaluation of videos on the open access platform of YouTube and Tiktok and did not involve the recruitment of human or animal subjects, ethical approval was not required or applicable.

3. Results

3.1. YouTube

There were a total of 120 videos excluded on YouTube: 6 were not in English, 41 were longer than 25 min, 48 were duplicates, and 25 were not related to DID. Thus, after the exclusion criteria phase, 60 videos were selected (see Fig. 1). The 60 videos were uploaded from June 20, 2006 to September 2, 2022. Averages for video length, number of views, number of likes, number of comments, mDISCERN score, and GQS sum are seen in Table 3. The average mDISCERN scores and GQS sums were the following: 2.58 and 2.58 for useful videos, 0.73 and 1.09 for neither useful or misleading videos, and 0.25 and 0.69 for misleading videos. Video source and content percentages for YouTube are seen in Table 4.

Table 5 portrays classification by video source. Of the 31 useful videos, 11 (35.48%) were from Film/TV, 8 (25.81%) were from other organizations, 4 (12.90%) were from independent users, 4 (12.90%) were from health professionals, 2 (6.45%) were from educational organizations, and 2 (6.45%) were from health companies. Of the 4 misleading videos, all 4 (100%) were from Film/TV sources. Of the 25 neither useful or misleading videos, 13 (52%) were from Film/TV, 11 (44%) were from independent users, and 1 (4%) were from health organizations.

Table 6 portrays classification by video content. Of the 31 useful videos, 14 (45.16%) were interviews, 12 (38.71%) were educational, 2 (6.45%) were personal stories, 2 (6.45%) were discussion, and 1 (3.23%) was from Film/TV. Of the 4 misleading videos, 2 (50%) were comedy skits, 1 (25%) was an interview, and 1 (25%) was a scene from a TV show. Of the 25 neither useful or misleading videos, 10 (32.26%) of videos were interviews, 6 (19.35%) were personal stories, 3 (9.68%) were from Film/TV, 2 (6.45%) were art videos, 2 (6.45%) were compilation videos, 1 (4%) were comedy skits, and 1 (4%) of videos were discussions.

With a sample size over 50, the Kolmogorov-Smirnov normality test was utilized to evaluate normality assumptions of numerical variables, which were found to be not normally distributed. Thus, the nonparametric statistical method of the Kruskal-Wallis test was used to determine any differences between video source (Table 7), video content (Table 8), and video classification (Table 9) for YouTube videos. There was a significant difference between mDISCERN average scores, GQS average scores, video length (time), and number of views with respect to YouTube video source ($\alpha < 0.05$). For YouTube video content, there was a significant difference between mDISCERN average scores, GQS average scores, and video length (time) ($\alpha < 0.05$). With respect to YouTube video classification, there was a significant difference between mDISCERN average scores and GQS average scores ($\alpha < 0.05$).

Videos from educational organizations and healthcare providers had the two highest mean rank mDISCERN and GQS scores of 49 and 48.5 for educational organizations, and 48.38 and 49.5 for healthcare providers respectively. On the other hand, videos from independent users and Film/TV sources had the two lowest mean rank mDISCERN and GQS scores of 22.1 and 18.03 for independent users and 22.75 and 25.25 for Film/TV. In addition, educational organizations and Film/TV sources had the two highest mean rank for number of views.

3.2. TikTok

There were a total of 83 videos excluded on TikTok: 2 were not in English, 4 were duplicates, 1 video went private during our review, and 76 were not related to DID. Thus, after the exclusion criteria phase, 97 videos were selected (see Fig. 2). The 97 videos were uploaded from November 13, 2019 to December 09, 2022. Averages for video length, number of views, number of likes, number of comments, mDISCERN score, and GQS sum are seen in Table 10. The average mDISCERN scores and GQS sums were the following, respectively: 1.6 and 2.45 for useful videos, 0.29 and 1.04 for neither useful or misleading videos, and 0.23

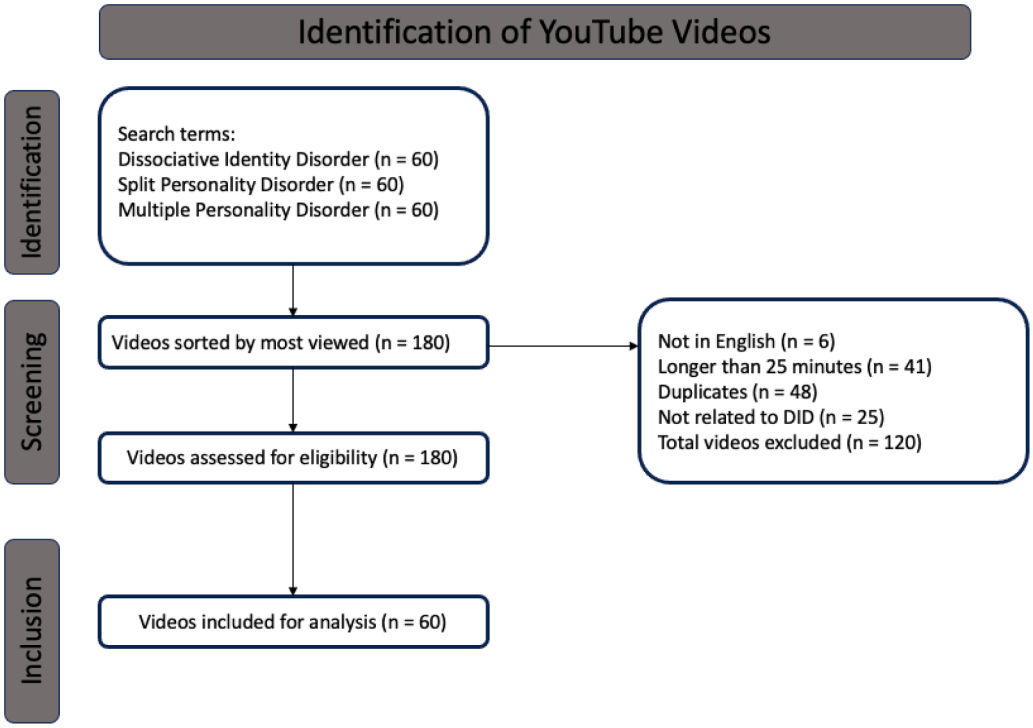

Fig. 1. Identification of videos via YouTube.

Table 3
YouTube: Video length, number of views, likes, comments, mDISCERN score, and GQS score.

Variable	Mean	Std Dev	Minimum	Maximum
Length (seconds)	620.9	352.0	121.0	1470.0
Views	1,884,661.2	4,159,099.6	185,692.0	30,477,733.0
Likes	44,134.4	115,734.1	0.0	878,193.0
Comments	2226.7	2958.7	0.0	15,225.0
mDISCERN Score	1.7	1.3	0.0	4.8
GQS Score	1.8	1.0	0.5	3.8

Table 4
YouTube: Video source & video content percentages.

Video Source	Percentage	Video Content	Percentage
Film/TV	46.7% ($n = 28$)	Interview	41.7% ($n = 25$)
Independent User	25.0% ($n = 15$)	Education	20.0% ($n = 12$)
Other Organization	13.3% ($n = 8$)	Personal Story	13.3% ($n = 8$)
Other Healthcare Provider	6.7% ($n = 4$)	Film/TV	8.3% ($n = 5$)
Health Organization	5.0% ($n = 3$)	Discussion	8.3% ($n = 5$)
Educational Organization	3.3% ($n = 2$)	Comedy	5.0% ($n = 3$)
		Art	3.3% ($n = 2$)

and 1 for misleading videos. Similarly, video source percentages and video content percentages are seen in Table 11.

Table 12 portrays classification by video source. Of the 5 useful videos, 3 (60%) were from independent users, 1 (20%) was from a Film/TV source, and 1 (20%) were from other organizations. Of the 10 misleading videos, 6 (60%) were from independent users, 2 (20%) from Film/TV sources, and 2 (20%) from podcasts. Of the 82 videos classified as neither useful or misleading, 81 (98.78%) were from independent users 1 (1.22%) was from Film/TV.

Table 13 portrays classification by video content. Of the 5 useful videos, 2 (40%) were discussion videos, 1 (20%) was an interview, 1 (20%) was a personal story, and 1 (20%) was an educational video. Of the 10 misleading videos, 6 (60%) were comedy videos, 2 (20%) were

Table 5
YouTube Classification by video source.

Video Source	Classification		
	Useful ($n = 31$)	*Misleading ($n = 4$)*	*Neither ($n = 25$)*
Educational Organization ($n = 2$)	6.5% ($n = 2$)	0.0%	0.0%
Other Healthcare Provider ($n = 4$)	123.0% ($n = 4$)	0.0%	0.0%
Other Organization ($n = 8$)	25.8% ($n = 8$)	0.0%	0.0%
Health Organization ($n = 3$)	6.5% ($n = 2$)	0.0%	4.0% ($n = 1$)
Film/TV ($n = 28$)	35.5% ($n = 11$)	100.0% ($n = 4$)	52.0% ($n = 13$)
Independent User ($n = 15$)	12.9% ($n = 4$)	0.0%	44.0% ($n = 11$)
Percentage of the total videos in each category ($n = 60$)	51.7%	6.7%	41.7%

discussion videos, 1 (10%) was a scene from a TV show, and 1 (10%) was a personal story. Of the 82 videos classified as neither useful or misleading, 32 (39.02%) were personal stories, 25 (30.49%) were comedy videos, 14 (17.0%) were art videos, 6 (7.32%) were discussion videos, 4 (4.88%) were interview videos, and 1 (1.22%) were from TV shows.

The Kolmogorov-Smirnov normality test and Kruskal-Wallis test were used again to determine any differences between video source (Table 14), video content (Table 15), and video classification (Table 16) for TikTok videos. For all three, there was a significant difference between mDISCERN average scores, GQS average scores, and video length (time) with respect to TikTok video source, video content, and video classification ($\alpha < 0.05$).

Videos from independent users had the highest mean rank mDISCERN and GQS scores of 90 and 90, respectively. On the other hand, videos from Film/TV sources, podcasts, and other organizations had the three lowest mean rank mDISCERN and GQS scores of 4 and 4 for Film/

Table 6
YouTube Classification by video content.

Video Content	Classification		
	Useful (n = 31)	*Misleading (n = 4)*	*Neither (n = 25)*
Educational (n = 12)	38.7% (*n* = 12)	0.0%	0.0%
Discussion (n = 3)	6.5% (*n* = 2)	0.0%	4.0% (*n* = 1)
Interview (n = 25)	45.2% (*n* = 14)	25.0% (*n* = 1)	40.0% (*n* = 10)
Personal Story (n = 8)	6.5% (*n* = 2)	0.0%	24.0% (*n* = 6)
Film/TV (n = 5)	3.2% (*n* = 1)	25.0% (*n* = 1)	12.0% (*n* = 3)
Art (n = 2)	0.0%	0.0%	8.0% (*n* = 2)
Compilation (n = 2)	0.0%	0.0%	8.0% (*n* = 2)
Comedy Skit (n = 3)	0.0%	50.0% (*n* = 2)	4.0% (*n* = 1)
Percentage of the total videos in each category (*n* = 60)	51.7%	6.7%	41.7%

Table 7
Kruskal-Wallis test for variables by YouTube video source.

	mDISCERN	GQS	Time	Views	Likes	Comments
Chi-Square	18.1	19.8	15.5	11.5	2.6	6.7
Df	4.0	4.0	4.0	4.0	4.0	4.0
Asymp. Sig.	0.001	0.001	0.004	0.02	0.6	0.2

Table 8
Kruskal-Wallis test for variables by YouTube video content.

	mDISCERN	GQS	Time	Views	Likes	Comments
Chi-Square	39.9	42.4	17.8	10.6	4.5	12.6
df	6.0	6.0	6.0	6.0	6.0	6.0
Asymp. Sig.	< 0.001	< 0.001	0.01	0.1	0.6	0.1

Table 9
Kruskal-Wallis test for variables by YouTube video classification.

	mDISCERN	GQS	Time	Views	Likes	Comments
Chi-Square	40.7	40.0	6.8	2.4	1.6	0.8
df	2.0	2.0	2.0	2.0	2.0	2.0
Asymp. Sig.	< 0.001	< 0.001	0.03	0.3	0.5	0.7

TV, 2 and 2 for podcasts, and 1 and 1 for other organizations. In addition, independent users had the highest mean rank for number of views.

The average mDISCERN scores between YouTube and TikTok were analyzed using a paired sample t-test in Table 17. Results showed there was a significant difference in mDISCERN scores between YouTube ($M = 1.68$, SD = 1.28) and TikTok ($M = 0.36$, SD = 0.36); t (59) = 7.42, $p = <0.001$. The average GQS scores between YouTube and TikTok were analyzed using a paired sample t-test in Table 18. Results showed there was a significant difference in mDISCERN scores between YouTube ($M = 1.84$, SD = 1.01) and TikTok ($M = 1.05$, SD = 0.14); t (59) = 6.03, $p = <0.001$.

4. Discussion

This study is the first of its kind to evaluate the quality and reliability of videos on both YouTube and TikTok as sources of medical information on DID. Our findings revealed significant discrepancies in the quality and reliability of the videos between the two platforms. YouTube videos had an average mDISCERN score of 1.66 ± 1.28 and an average GQS score of 1.84 ± 1.01. In contrast, TikTok videos had an average mDISCERN score of 0.35 ± 0.5 and an average GQS score of 1.11 ± 0.39. A paired sample *t*-test demonstrated significantly higher mDISCERN and GQS scored for YouTube compared to TikTok, suggesting that YouTube was of higher quality and reliability. The lack of good quality content on both platforms raises concerns about the accuracy and trustworthiness of the information provided.

There was a disparity between the rater perceived usefulness of videos on YouTube and TikTok. While YouTube had over half (51.67%) of the selected videos classified as useful, TikTok only had 5.15% videos that were classified as useful. Additionally, we classified videos as educational if it presented information on DID and came from a user who's account is dedicated towards posting videos on educational topics regarding health, medicine, history, science, etc. Videos that were classified as educational and useful were found in 38.71% of YouTube videos. In contrast, TikTok had 20% of videos that were classified as educational and useful. These findings underscore the importance of promoting educational content and ensuring the presence of reliable sources on both platforms, especially TikTok. Additionally, the content analysis revealed that the majority of videos on YouTube were interviews on TV (41.67%) and educational videos (20%). In contrast, TikTok predominantly featured forms of self-expression such as personal stories (35.05%), comedy (31.96%), and art (14.43%).

One important distinction between the two platforms is the length of videos available for users to post. YouTube allows for longer videos, whereas TikTok videos are limited to a maximum of five minutes. The limitation of video length could be a contributing factor on the quality of videos uploaded on TikTok. Videos that focused on education of DID on YouTube were of longer length. The limitation of video length on TikTok might not allow for the publication of the same level of educational content seen on YouTube, thus explaining a decrease in quality and reliability.

The way each platform is used could also be explained by the age demographics of users. YouTube has a more dispersed age group on its platform with 15% between the ages 18 to 24, 20.7% between ages 25 to 34, 16.7% between ages 35 to 44, 12% between ages 45 to 54, 8.8% between ages 55 to 64, and 9% of users above age 65 (YouTube Users, Stats, Data, Trends, and More, 2023). In contrast, TikTok's age demographic is skewed heavily towards a younger audience with 38.5% of users between ages 18 to 24, 32.5% between ages 25 to 34, 15.6% between ages 34 to 44, 8% between ages 45 to 54, and 5.5% above age 55 (TikTok Users, Stats, Data, Trends, and More, 2023). A social media platform with a younger demographic may primarily be used for self-expression, art, and comedy which are prominent in this study's sample regarding video source and video content for TikTok. These types of video sources and content could contribute to the increased number of misleading videos and decreased number of useful videos, as this content is less tailored towards educating audiences and more tailored towards connecting with an audience or providing entertainment. The wider and older age range of YouTube may explain the varied content with less misleading videos.

Importantly, our study highlights the scarcity of content on TikTok which contains useful medical information pertaining to DID when compared to YouTube. Instead of vilifying TikTok, we emphasize its potential as a platform to combat misinformation, given its audience, particularly among younger generations. Increasing awareness of misinformation empowers individuals to become informed consumers of content. While tackling misinformation poses challenges, the correct labeling of mental health disorders can also encourage more individuals to seek treatment, which is a positive outcome (Wright et al., 2007).

Notably, when videos were selected based on most views or most likes, we observed a complete absence of content coming from psychiatrists and few psychologists or other mental health professionals. This scarcity highlights the need for more mental health professionals to actively participate on both YouTube and TikTok. Their expertise and authoritative presence can significantly contribute to the dissemination

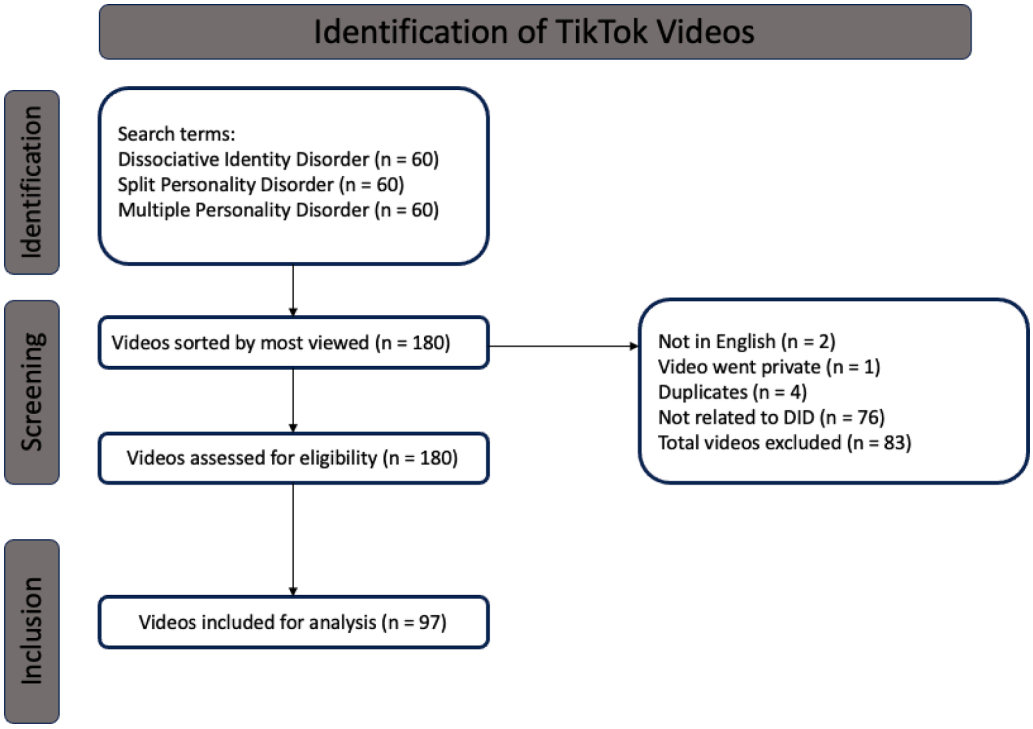

Fig. 2. Identification of videos via TikTok.

Table 10
TikTok: Video length, number of views, likes, comments, mDISCERN score, and GQS score.

Variable	Mean	Std Dev	Minimum	Maximum
Length (seconds)	45.1	38.2	5.0	177.0
Likes	221,851.6	394,633.2	11,700.0	2,800,000.0
Comments	1492.2	2760.8	51.0	20,300.0
mDISCERN Score	0.4	0.5	0.0	3.5
GQS Score	1.1	0.4	1.0	4.0

Table 11
TikTok: Video source & video content percentages.

Video Source	Percentage	Video Content	Percentage
Independent User	92.8% ($n = 90$)	Personal Story	35.1% ($n = 34$)
Film/TV	4.1% ($n = 4$)	Comedy	32.0% ($n = 31$)
Podcast	2.1% ($n = 2$)	Art	14.4% ($n = 14$)
Other Organization	1.0% ($n = 1$)	Discussion	10.3% ($n = 10$)
		Interview	5.2% ($n = 5$)
		TV Show	2.1% ($n = 2$)
		Educational	1.0% ($n = 1$)

Table 12
TikTok Classification by video source.

Video Source	Classification		
	Useful ($n = 5$)	*Misleading ($n = 10$)*	*Neither ($n = 82$)*
Other Organization ($n = 1$)	20.0% ($n = 1$)	0.0%	0.0%
Film/TV ($n = 4$)	20.0% ($n = 1$)	20.0% ($n = 2$)	1.2% ($n = 1$)
Independent User ($n = 90$)	60.0% ($n = 3$)	60.0% ($n = 6$)	98.8% ($n = 81$)
Podcast ($n = 2$)	0.0%	20.0% ($n = 2$)	0.0%
Percentage of the total videos in each category ($n = 97$)	5.2%	10.3%	84.5%

Table 13
TikTok Classification by video content.

Video Content	Classification		
	Useful ($n = 5$)	*Misleading ($n = 10$)*	*Neither ($n = 82$)*
Educational ($n = 1$)	20.0% ($n = 1$)	0.0%	0.0%
Discussion ($n = 10$)	40.0% ($n = 2$)	20.0% ($n = 2$)	7.3% ($n = 6$)
Interview ($n = 5$)	20.0% ($n = 1$)	0.0%	4.9% ($n = 4$)
Personal Story ($n = 34$)	20.0% ($n = 1$)	10.0% ($n = 1$)	39.0% ($n = 32$)
Art ($n = 14$)	0.0%	0.0%	17.1% ($n = 14$)
Comedy ($n = 31$)	0.0%	60.0% ($n = 6$)	30.5% ($n = 25$)
TV Show ($n = 2$)	0.0%	10.0% ($n = 1$)	1.2% ($n = 1$)
Percentage of the total videos in each category ($n = 97$)	5.2%	10.3%	84.5%

Table 14
Kruskal-Wallis test for variables by TikTok video source.

	mDISCERN	GQS	Time	Likes	Comments
Chi-Square	8.0	13.6	10.7	4.2	6.9
df	3.0	3.0	3.0	3.0	3.0
Asymp. Sig.	0.1	0.004	0.01	0.2	0.1

Table 15
Kruskal-Wallis test for variables by TikTok video content.

	mDISCERN	GQS	Time	Likes	Comments
Chi-Square	29.7	35.6	27.0	7.5	9.2
df	6.0	6.0	6.0	6.0	6.0
Asymp. Sig.	< 0.001	< 0.001	< 0.001	0.3	0.2

Table 16
Kruskal-Wallis test for variables by TikTok video classification.

	mDISCERN	GQS	Time	Likes	Comments
Chi-Square	12.0	40.1	8.0	1.5	1.8
df	2.0	2.0	2.0	2.0	2.0
Asymp. Sig.	0.003	< 0.001	0.02	0.5	0.4

of accurate information and bridge the existing gap in quality content. Understanding the mechanisms of social media algorithms is also crucial for healthcare professionals seeking to disseminate accurate information and engage with a wider audience. Social media platforms employ intricate algorithms that prioritize content based on relevance, engagement, and user preferences. By comprehending these algorithms, healthcare professionals can strategically optimize their posts to increase visibility and impact. This involves posting timely and reliable information, utilizing appropriate medical hashtags, crafting compelling and engaging content, and actively interacting with the online community. By aligning their content with social media algorithms, health professionals can contribute to the dissemination of trustworthy health information in the digital realm.

Encouraging social media platforms to develop their own solutions could include implementing features like a "Mental Health" tab on TikTok, where peer-reviewed, high-quality content is easily accessible. Platforms can also play a role in moderating misinformation by employing warning or fact-checking messages or even censoring misinformation (while considering ethical considerations). Furthermore, advocating for investment from mental health advocacy groups to develop captivating, high-quality content specifically tailored for social media platforms can significantly enhance the availability and reach of reliable information.

4.1. Limitations

There were a few limitations to this study. First, it only analyzed videos in the English language, limiting its scope to countries where English is spoken. Research has found that dissociative symptoms among PTSD are not confined to developed countries (Stein et al., 2013). With the prevalence of social media worldwide, content is posted from various languages. Future studies should evaluate social media platforms as sources of medical information in various languages.

An additional limitation of this study is the categorization of videos as useful, misleading, or neither useful or misleading. Although reviewers use the DSM-V-TR as the criteria for categorization, there is a possibility that what the team categorizes as accurate could be perceived as inaccurate or misleading by others. There is also a limitation based on the usage of both YouTube and TikTok. Not all media that is shared on these platforms could be meant to be educational. Each platform could allow different opportunities to post a variety of different content. As previously mentioned, videos posted may not be meant to provide factual information but more so to provide the perspective of someone living with DID as they navigate their every day life, or videos that exist only to be trendy or fun which have the potential to be labeled as misleading. The variety of content and intent behind the videos could be lost with a simple classification system, which could affect how the criteria is measured in this study.

Furthermore, it is important to note that this study focused exclusively on YouTube and TikTok and did not consider other popular social media platforms where individuals may seek medical information. Research indicates that younger generations extensively utilize platforms like Facebook, WhatsApp, Instagram, and Twitter as integral parts of their daily routines. The impact of these platforms on cognitive, psychological, and social well-being has been associated with problematic social media use during developmental stages (Cataldo et al., 2021). Thus, future investigations should encompass a broader analysis of educational content on DID across a range of social media platforms.

Another limitation of this study is the search terms used to extract videos for analysis. Besides the use of “dissociative identity disorder”, the use of “multiple personality disorder” and “split personality disorder” could have affected the types of videos that were extracted, as these search terms could be more outdated compared to “dissociative identity disorder.” There could potentially be other search terms that are not as outdated and could have yielded a larger and different quantity of videos.

5. Conclusion

Our study highlights the critical importance of evaluating the quality and accuracy of medical information on social media platforms, specifically in relation to DID. While more than half of the YouTube videos were classified as useful, TikTok exhibited a notably lower percentage of useful content. In short, there were ten times more useful videos on YouTube than on TikTok. It is crucial to recognize that social media platforms have the power to both educate and mislead users when it comes to information about DID. The current findings emphasize the need for healthcare professionals to actively engage on TikTok by creating educational videos that focus on providing accurate and reliable information about DID. By leveraging the reach and popularity of these platforms, healthcare professionals can play a pivotal role in educating the public about DID and promoting access to accurate information.

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Table 17
Paired sample t-test for mDISCERN scores between YouTube and TikTok.

	Paired Differences							
				95% CI				
	Mean	Std. Deviation	S.E. Mean	Lower	Upper	t	df	Sig. (2-tailed)
YouTube Avg mDISCERN – TikTok Avg mDISCERN	1.3	1.4	0.2	1.0	1.7	7.4	59.0	<0.001

Table 18
Paired sample t-test for GQS scores between YouTube and TikTok.

	Paired Differences							
				95% CI				
	Mean	Std. Deviation	S.E. Mean	Lower	Upper	t	df	Sig. (2-tailed)
YouTube Avg GQS – TikTok Avg GQS	0.8	1.0	0.1	0.5	1.1	6.0	59.0	<0.001

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CRediT authorship contribution statement

Isreal Bladimir Munoz: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Visualization, Writing – original draft, Writing – review & editing. **Jasmine Liu-Zarzuela:** Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Visualization, Writing – original draft. **Navin Oorjitham:** Formal analysis, Investigation, Supervision, Writing – review & editing. **Devon Jacob:** Formal analysis, Investigation.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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