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Mental health, violence, suicide, self-harm, and HIV in series and films of Netflix: content analysis and its possible impacts on society

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The media entertainment we consume significantly affects our behavior, our relationships, and our identity. Thus, this study focuses on some of the main problems of society today and analyzes how these variables are represented on Netflix. Specifically, this study analyzes how content related to mental health, violence, suicide, self-harm, and Human Immunodeficiency Virus (HIV) appears in the ten most-watched movies and ten most-watched series on Netflix. To this end, a conceptual analysis method based on a 5-min interval coding is used. Results posit that violence is shown in 38.7% of the movie sections and 37.3% of the series. Suicide and self-harm appear, respectively, in 0.9% and 0% of the movies and 1.3 and 0.2% of the series. Regarding mental health, 0.5% of the analyzed individuals had a mental health diagnosis. Finally, none of the 220 main characters analyzed stated that they had HIV. Among the conclusions, the need to regulate violence in the media or to mitigate the impact it generates should be highlighted. Likewise, mental health, suicide, self-harm, and HIV have been observed not to have a realistic representation in fiction, which generates stigmatization.

KEYWORDS

mental health, violence, suicide, self-harm, HIV, Netflix, media

1. Introduction

Numerous studies have shown that the entertainment we consume affects our behavior, our consumption habits, the way we relate to each other, and how we explore and build our identity (Chang et al., 2016; Alfayad et al., 2021). Based on a survey conducted globally among consumers, respondents spent an average of 19 h per week consuming digital content via various platforms in the year 2022 (Statista, 2023). One major platform is Netflix, which, with 27 ~223 million paying subscribers at the end of 2022, is the most widely used and 28 disseminated audiovisual content creation and distribution platform worldwide (Bustos, 2020).

Digital platforms like Netflix have a strong impact on modern society. Therefore, understanding what type of messages viewers receive and the way in which these messages can affect their behavior is of vital importance for an effective understanding of today's society. In this regard, it is necessary to pay special attention to adolescents while studying the impact of such content on viewers. This stage is crucial for the development and construction of values and identities. At this age, new, often harmful, habits are adopted and established in the long term (Bird and Tapp, 2008). Therefore, it must be considered that people in this age group are the most susceptible to imitating the attitudes or consuming the products they see

in movies and series (Gass et al., 2014; Niederkrotenthaler et al., 2019). Moreover, teenagers are one of the largest Netflix consumer groups. According to a study, eight out of every ten adolescents watch streaming content at least once a day, compared to two out of ten people over the age of 60 (Arroyo and Guerra, 2019). Although the objective of this research is to analyze the impact of such content on society in general, it is sometimes necessary to pay special attention to this specific age group.

Considering all of the above, this study identified the ten most-watched movies and ten most-watched series in the history of Netflix worldwide (the data were collected on November 21, 2022). It analyzed the manner in which content related to mental health, violence, suicide, self-harm, and Human Immunodeficiency Virus (HIV) appeared in them. It was decided to analyze these specific elements because, according to various studies, they are the leading causes of death in young people [Royal College of Paediatrics and Child Health (RCPCH), 2020; World Health Organization, 2022b] that can be widely influenced by their representation in the media. According to these studies, elements such as alcohol, tobacco, or junk food (related to obesity) also constitute a major health-related issue in today's society, and their appearance on the media is also considered to have a strong impact on spectators. However, those elements were not included in this study as they were analyzed in another recent research by Peña and Sarrionandia (2023).

1.1. State of the subject matter

For decades, numerous studies have been conducted analyzing violent content on TV (Gerbner et al., 1986; Centerwall, 1989; Lichter et al., 1999). In fact, Greenberg et al. (1980, p. 99) state that “no other communication research issue has been studied so often, nor by so diverse a collection of social scientists, therapists, physicians, and lay groups.” However, streaming platforms, Netflix in particular, due to their recent creation and growth, have not yet been studied in depth. Some research has been carried out studying harmful substances such as alcohol, tobacco, or junk food on Video On Demand (VOD) platforms (Barker et al., 2019; Alfayad et al., 2021; Peña and Sarrionandia, 2023). Violent content has also been studied in occasion, using both qualitative and quantitative analysis methods (Krongard and Tsay-Vogel, 2020; Çelik, 2021; Lashay, 2022). As for mental health, self-harm, suicide, and HIV imagery, not many studies have been conducted, and most of them are centered on specific series, such as the research by Jenney and Exner-Cortens (2018), that examines the phenomenon of Netflix series *13 Reasons Why*, or the one by Stamm (2020), that investigates how the television series *Pose* represents queer and trans people of color living with HIV/AIDS in 1987. Therefore, few studies have been conducted analyzing the proposed topics on the most viewed movies and series of Netflix, constituting a great necessity as the issues examined in this study are of great relevance in actual society.

On the one hand, violence is one of the leading public health problems worldwide and one of the leading causes of death for adolescents and the general population. Violence affects the lives of millions of people each year, resulting in death, physical harm, and lasting mental damage. It is estimated that in

2019, violence caused 475,000 deaths (World Health Organization, 2022e). According to the World Health Organization (2020), around 50% of children aged 2–17 years have experienced physical, sexual, or emotional violence, amounting to approximately one billion children and adolescents who are victims of violence every year. In addition, an estimated 120 million girls have had some form of sexual contact against their will before the age of 20 (World Health Organization, 2020). In addition to the obvious physical and emotional consequences of violence, it is estimated to be responsible for the expenditure of 11% of the gross domestic product (GDP) worldwide (World Health Organization, 2022d).

The second element analyzed in the study is mental health. Mental health “is a state of mental wellbeing that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community” (World Health Organization, 2022c), and it is more than the absence of disease (mental disorders). Currently, 10–20% of minors experience mental health disorders (World Health Organization, 2020). Specifically, and taking into account different mental health disorders, several studies have estimated that the prevalence of Major Depressive Disorder in the general population ranges between 0.2 and 17% (Costello et al., 2004) while the prevalence of other disorders such as Minor Depression or depression not otherwise specified are higher at all ages (Lewinsohn et al., 2004). Regarding anxiety disorders, the average prevalence is 8%, with a range from 2 to 24% (Costello et al., 2005). Regarding the general population, the data shows that around 20% of the adult population suffers from a mental illness. In Spain, for example, the overall prevalence of mental health problems is 27.4:30.2% in women and 24.4% in men (General Subdirectorate of Health Information, 2021). Worldwide, the data is similar, with the overall prevalence of mental illnesses in the United States being 21%, for example, accounting for 52.9 million adults in the country (National Institute of Mental Health, 2022).

Poor mental health is closely related to suicide. It is estimated that each year more than 700,000 people commit suicide worldwide, another of the leading causes of death in young people (Lancet Psychiatry, 2017). In some countries, such as Spain, it is already the leading cause of death (RTVE, 2021; Ethic, 2022), and suicide rates have increased considerably in recent years.

Non-suicidal self-harm is “self-harming behavior without suicidal objective” that involves self-inflicted harm, mainly in the extremities and abdomen, significantly affecting adolescents with a prevalence of 17–18% (Ospina et al., 2019). In addition, the prevalence in children and adolescents has increased in several countries worldwide (Griffin et al., 2018; Ougrin et al., 2022). Regarding adults, the European Study of the Epidemiology of Mental Disorders has confirmed that the adult prevalence of suicidal ideation and suicide attempts is between 7.8 and 1.3% (Bernal et al., 2007). Likewise, a nationally representative study conducted in the United Kingdom has revealed that 16.6% of young adults (18–34 years old) have harmed themselves at some time in their lives (O'Connor et al., 2018).

Finally, although it is true that in the most developed countries, its impact is decreasing, HIV continues to be another leading cause of death worldwide (World Health Organization, 2022a). HIV continues to be a major global public health issue; around 40 million people have died due to the disease (estimates range

from 33.6 to 48.6 million people) (World Health Organization, 2022a). HIV attacks the immune system and weakens the defenses against many infections and certain types of cancer that people with stronger immune systems can fight more easily (World Health Organization, 2022a). Thus, the virus destroys immune cells and prevents the normal functioning of immunity, so that the infected person gradually falls into a situation of immunodeficiency.

1.2. Objective

The objective of this study is to analyze the way in which certain content appears in the series and movies on Netflix. Specifically, the purpose of the study was to see how much and in which form the content related to mental health, violence, suicide, self-harm, and HIV appears in the ten most-watched series and ten most-watched movies on Netflix, in order to plan and build proposals on a solid base of knowledge and help raise awareness among consumers of digital platforms as well as the general population regarding their consumption.

2. Methodology

The ten most-watched movies and ten most-watched Netflix series worldwide were selected on the basis of official data provided by the company.¹ The company is considered to perform the measurements based on the number of hours viewed for each work in the first 28 days from its premiere. Therefore, it must be taken into account that movies and series with longer durations are more likely to appear on the list. In other words, if a 3.5-h movie, such as *The Irishman*, was watched to the end three times (10.5 h in total) it would be ahead of a 1-h movie that had been seen 10 times (10 h in total) in this type of ranking. It is impossible to accurately calculate the number of people consuming content since there is currently no way of knowing how many people are watching the content behind each screen, so this mode of measurement was considered the most appropriate for the research.

Once the works were selected, their content was analyzed using a conceptual analysis method based on the coding of 5-min intervals, standard in research focused on content analysis (Escamilla et al., 2000; Alfayad et al., 2021). Content analysis is a research methodology used to determine the presence of certain themes or concepts within different communication artifacts, in this case, video files. On those files, a systematic labeling or coding is conducted to quantify the presence of the selected elements. For this purpose, an *ad hoc* table was created to record the following variables. On the one hand, the name of the movie/series, its genre, the age rating, and the hours broadcasted on Netflix were collected. On the other hand, each piece was divided into 5-min intervals, and it was analyzed whether content related to mental health, violence, suicide, self-harm, and HIV appeared in each interval.²

When coding violence, only physical violence (showed explicitly) was considered; other types of violence (e.g., sexual,

psychological, verbal) were not analyzed. However, in the suicide and self-harm variables, a distinction was made between whether the element was shown directly or indirectly. It was considered direct when the action was explicitly shown and indirect when a mention was made of that element without showing it or when it was implied that the action had taken place without directly showing it.

It is essential to clarify that when a self-harm or suicide scene occurred while the character was conditioned or when it was a sacrifice to achieve a specific goal, it was not counted as self-harm or suicide. We are referring, for example, to scenes like the one that occurred in minute 38 of chapter 3 of Season 4 of *Money Heist*, where the character César Gandía voluntarily injured his hand to be able to free himself from the shackles that bound him. Then, on to the scene in the last chapter of *Squid Game*, where the character Cho Sang-Woo took his own life because that was the only way the protagonist, Seong Gi-hun, would collect the multi-million dollar prize and thus be able to help his mother.

Similarly, both the self-harm and suicide scenes in the movie *Bird Box* were classified as violence, not suicide. This is because, in this movie, some mysterious creatures have the power to make people hurt themselves and commit suicide. Since these actions do not occur voluntarily, it was decided to classify them as violence rather than suicide or self-harm.

In the case of violence, suicide, self-harm, and HIV, after adding up the sections that included the content analyzed, the total percentages corresponding to each work were calculated. For example, for the movie *Red Notice*, if 13 out of the 22 sections show violent content, its percentage of violence would be 59.1%. In the case of the series, each episode was analyzed separately and then the average for the season was calculated. Subsequently, for a better interpretation of the data, the means of both, ten films and ten series, were calculated.

When it came to mental health, all the main characters that appeared in the ten movies and ten Netflix series were counted, and, of those, characters that had a mental health diagnosis were identified. In the case of the series, where many characters typically appear and where it can be challenging to identify which should be considered a main character and which should not, the characters that appeared in at least 80% of the series' episodes were recorded as main characters.

The movies analyzed had a total duration of 21 h and 56 min, which, without counting the intervals that corresponded to the credits, resulted in 248 sections of 5 min. The names, genres, age recommendations, and hours watched in the first 28 days are shown in Table 1. The data were collected on November 21, 2022.

The series totaled 96 h and 55 min of broadcasting time. Not counting the end credits, the number of intervals analyzed was 1,128. The names, genres, age recommendations, and hours watched in the first 28 days are shown in Table 2.

3. Results

3.1. Violence

Of all the variables analyzed, violence stood out the most due to its significant impact on both movies and series. In the case of

¹ www.top10.netflix.com

² To consult the specific files of each film/chapter, please contact the authors.

TABLE 1 Summary of selected movies.

Film	Genre	Age rating	Hours viewed
Red notice	Action/comedy	12+	364,020,000
Don't look up	Comedy/political satire	16+	359,790,000
Bird box	Horror/C. Fiction	16+	282,020,000
The gray man	Action/thriller	16+	253,870,000
The adam project	C. Fiction/drama	12+	233,160,000
Extraction	Action/suspense	18+	231,340,000
Purple hearts	Musical/drama	12+	228,690,000
The unforgivable	Drama/thriller	16+	214,700,000
The irishman	Crime/drama	16+	214,570,000
The kissing booth 2	Romantic comedy	7+	209,250,000

TABLE 2 Summary of selected series.

Series	Genre	Age rating	Hours viewed
Squid game	Drama/thriller	16+	1,650,450,000
Stranger things 4	Mystery/C. Fiction	16+	1,352,090,000
DAHMER-monster: the jeffrey dahmer story	Thriller/police drama	18+	856,200,000
Money heist 5	Thriller/police drama	16+	792,230,000
The bridgerton 2	Romance/historical	16+	656,260,000
The bridgerton 1	Romance/historical	16+	625,490,000
Money heist 4	Thriller/police drama	16+	619,010,000
Stranger things 3	Mystery/C. Fiction	16+	582,100,000
Lucifer 5	Police mystery/drama	16+	569,480,000
All of us are dead	Horror/drama	16+	560,780,000

movies, of the 248 sections studied, 96 contained explicit violence, i.e., 38.7%. The movies that showed the highest percentage of violence were those classified within the action genre, with *The Gray Man* (91.3%), *Extraction* (71.4%), and *The Adam Project* (70%) showing the highest percentage of violence (Table 3).

In the case of the series, 421 of the 1,128 sections analyzed included images that explicitly showed violence. This represents 37.3% of the total intervals. The series that showed the highest percentage of violent images was *All of Us are Dead* (76.6%) (Table 4).

3.2. Mental health related diagnosis

In the case of the movies, only one of the 68 main characters identified had a diagnosis related to mental health. This is Doctor Mindy, the character played by Leonardo DiCaprio in the movie

TABLE 3 Intervals with violent content in movies.

Film	Total intervals	Intervals with violence	%
Red notice	22	13	59.1%
Don't look up	27	3	11.1%
Bird box	23	8	34.8%
The gray man	23	21	91.3%
The adam project	20	14	70%
Extraction	21	15	71.4%
Purple hearts	24	2	8.3%
The unforgivable	22	6	27.3%
The irishman	40	14	35%
The kissing booth 2	26	0	0%
Total	248	96	38.7%

TABLE 4 Intervals with violent content in series.

Series	Total intervals	Intervals with violence	%
Squid game	91	41	45%
Stranger things 4	152	71	46.7%
DAHMER-monster: the jeffrey dahmer story	101	14	13.9%
Money heist 5	106	47	44.3%
The bridgerton 2	97	0	0%
The bridgerton 1	95	11	11.6%
Money heist 4	80	35	43.8%
Stranger things 3	87	39	44.9%
Lucifer 5	182	58	31.9%
All of us are dead	137	105	76.6%
Total	1,128	421	37.3%

Don't Look Up. In the 81st min of the movie, the character is revealed to be suffering from anxiety attacks and depression.

Regarding the series, none of the 152 main characters is identified as having any type of mental health-related diagnosis.

3.3. Suicide and self-harm

None of the movies analyzed showed images of suicide or self-harm explicitly, and only one of the ten movies mentioned suicide indirectly. It was in the film *The Unforgivable* that the suicide of a character was discussed in two different sections. This means that 0.9% of the total intervals of all the movies analyzed referred to suicide.

Regarding the series, the percentage was higher as three of the 10 works analyzed included content related to suicide. The series in question were *All of Us are Dead* (7.3%), adding direct and indirect

references; *Dahmer* (4%); and *Squid Game* (1.1%). Likewise, *All of Us are Dead* was the only work in which content related to self-harm manifested itself, appearing in two of the 137 sections (1.5%). In total, 1.3% of the sections of all the series analyzed showed content related to suicide while 0.2% of the sections included content related to self-harm.

3.4. HIV

Adding series and movies, 220 main characters were analyzed. There is no mention of any of these characters having HIV.

4. Discussion

The content that had the most significant presence in both series and movies was violence, with a percentage of 38.7% in movies and 37.3% in series. Concern about the effect that consuming so much violence could have on viewers goes back a long way, as long as the origins of television itself. Already in 1972, the Surgeon General of the United States affirmed that, in effect, this type of content produced adverse effects in a certain part of the population (National Institute of Mental Health, 1972). Since then, numerous studies have come to the same conclusion. Six of the leading U.S. health organizations, including the American Academy of Pediatrics and the American Psychological Association, stated that the data strongly suggest a causal relationship between media violence and aggressive behavior in some children (American Academy of Pediatrics, 2000). In a 2004 study, 98% of the 365 pediatricians consulted stated that in their personal opinion, television and other media consumption affected children's aggressiveness (Gentile et al., 2004). Furthermore, studies show that another well-proven effect of consuming violence is desensitization toward it, which results in less emotional agitation when witnessing violent acts, a weaker tendency to intervene in fights, and less sympathy toward victims of violence (Cantor, 2000).

Despite the numerous studies relating media violence with societal violence, as shown in the results of this research study—where almost half of all the intervals analyzed contained violent images—it does not seem that this type of images are decreasing. In fact, as Hetsroni (2007) states, after conducting a longitudinal meta-analysis where he reviews 57 content analyses (covering 4,988 h of broadcasts) that examined the frequency of violent content on American prime-time network programming between 1960 and 2002, the portrayal of violence has not decreased in the last 4 decades. Therefore, in the first place, one of the objectives of this research study is to reemphasize the importance of studying violence-related content in the media.

Secondly, it urges the promotion of actions to reduce the impact of violence on the spectators. Experts propose three different ways of tackling the problem. The first is to reduce exposure to violence in the media, especially for younger viewers (Anderson and Bushman, 2002). Studies have shown that children and adolescents can and do easily access violent content that is inappropriate for them according to rating systems (Rideout et al., 2010). At the same time, many parents report finding age rating systems challenging to

use (Rideout, 2007). Given this, further research on the uses of age ratings and the V-chip is recommended (Cantor, 2000). In addition, the American Academy of Pediatrics recommends removing TVs from young people's bedrooms and limiting or supervising the content that minors access (Council on Communications and Media, 2009). The second approach proposed by experts focuses on changing the attitude or disposition of young people toward this type of content (Anderson and Bushman, 2002). In this regard, research on media literacy programs and the reinforcement of public education is promoted (Cantor, 2000). Finally, there are recommendations for the entertainment industry itself. Among other measures, it is recommended not to normalize violence as an acceptable way of resolving conflicts, not to “glamorize” weapons, and not to use violence in a sexual context. In addition, it is requested that when violence is shown, it should be done conscientiously, showing the suffering it causes in victims and aggressors (Council on Communications and Media, 2009).

Various studies have associated violence in the media not only with physical problems, but also with mental problems, such as fear, anxiety, and depression (Council on Communications and Media, 2009). As shown in the results section, adding the series and the movies, 220 main characters were identified, only one of which had a mental health diagnosis. This represents 0.5% of the total number of characters. According to recent studies, in real life, 10–20% of children and adolescents experience mental health disorders (World Health Organization, 2020). Likewise, around 20% of adults have a mental disorder (General Subdirectorate of Health Information, 2021; National Institute of Mental Health, 2022). If we compare these data with the percentage of 0.5% obtained from the fiction analysis, it can be concluded that mental health disorders are not realistically represented in the movies and series that viewers consume.

One of the main consequences of this lack of visibility is the stigmatization created around mental disorders. Stigma is understood as a labeling process, which leads to stereotyping, emotional reactions, loss of status, or discrimination (Link et al., 2004). The impact of stigma in the community also affects vital aspects of the person's life, such as employment, education, or the health system (Thornicroft et al., 2009), and is one of the most significant factors that prevent people with health problems from seeking help (Schomerus and Angermeyer, 2008). Addressing this stigma requires normalizing mental illness (Gulliver et al., 2010) and mental health in general. Normalization will allow society to become more empathetic and supportive of people with mental illness and create more welcoming communities (Gulliver et al., 2010). The same goes for HIV. Using HIV-normalizing discourse shows people living with HIV that they can control all aspects of their condition, including stigma (McGrath et al., 2014).

Continuing with the variables studied in the research work, suicide is the third leading cause of death in young people aged 10–19 years worldwide (Lancet Psychiatry, 2017) and the leading cause of death in some countries, such as Spain (RTVE, 2021; Ethic, 2022). In addition, suicide cases among young people (15–19 years) have increased more than that in the general population has (45 vs. 26%) (Griffin et al., 2018). Specifically, the World Health Organization (2014) and *Global Burden of Disease* estimate that almost 800,000 people commit suicide each year, one person every 40 s (Roth et al., 2018). Given these data, it is also evident that

suicide-related topics are not realistically represented in movies (0.9%) and series (1.3%) either.

Unfortunately, there are many myths regarding suicide. It is believed that talking about suicide encourages suicide [Hjelmeland and Knizek, 2004; Nevada Division of Public Behavioral Health (DPBH) Office of Suicide Prevention, 2022]. On the contrary, the fact is that talking about both suicide and self-harm provides the opportunity to communicate and thus reduce fear, help the person, etc. [Nevada Division of Public Behavioral Health (DPBH) Office of Suicide Prevention, 2022]. A study carried out in the United States suggested that the premiere of the last season of the series *13 Reasons Why* increased suicides among adolescents (Niederkröthaler et al., 2019). What the authors comment is that considering the suicides between 1999 and 2017, the numbers increased significantly in 2017, coinciding with the months after the premiere of the series. Although it cannot be said for sure that there is a causal connection between the two events, the data shows an increase in suicides that coincides with the months that the series aroused more interest (as reflected on Instagram and Twitter). However, this does not mean that dealing with suicide in the media causes an increase in suicide. Thus, talking about suicide can positively affect the population, but for this to happen, how this content is presented in fiction must be taken care of. A series of recommendations are addressed to the audiovisual media to responsibly deal with the issue (World Health Organization, 2017) so that, this way, the media can help solve the suicide problem instead of aggravating it.

5. Conclusion

This study has shown that there is a considerable presence of violence among the top ten most-watched movies and series on Netflix. However, suicide, self-harm, mental health, and HIV have minimum presence in the analyzed works. Considering the impact that digital platforms have on viewers' behaviors, the study emphasizes the need to regulate violence in the media or to mitigate the impact it generates. Moreover, it highlights the need to realistically represent the complex issues that suicide, self-harm, mental health, and HIV constitute in the modern society.

6. Strengths, limitations, and future directions

This paper presents several contributions to the literature. On the one hand, novel research carried out in a field that

encompasses both psychology and audiovisual sciences is given, being an interdisciplinary work. In addition, it is a subject little investigated, as streaming platforms have not yet been analyzed in depth, and at the same time very current and vital, since it affects mental health. On the other hand, this work opens new lines of research for the future, since it has detected several points to improve or build on. One of the main limitations of the study is that Netflix currently does not offer data on the exact number of people who consume its content or their characteristics (e.g., age, gender), thus it would be interesting to delve into these aspects in the future. At the same time, it would be of great interest to design and evaluate audiovisual awareness and literacy programs to work on how viewers receive and assimilate the various contents they consume.

Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding authors.

Author contributions

Idea, methodology, and results: MP. Discussion and conclusion: MP and AS. All authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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