

Alcohol, tobacco, junk food and sport in series and films of Netflix: Content analysis and its possible impacts in society

Alcohol, tabaco, comida basura y deporte en series y películas de Netflix: Análisis de contenido y sus posibles impactos en la sociedad

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ABSTRACT

Introduction: This study analyses the way in which content related to alcohol, tobacco, junk food and sports appear in the 10 most-watched movies and 10 most-watched series on Netflix. **Methodology:** To determine this, a conceptual analysis method based on a 5-minute interval coding is used. **Results:** The results indicate that alcohol is shown in 32.7% of the sections of the films and in 29.8% of the series. Tobacco appears in 13.2% of the intervals of the films and in 14.5% of the series. Junk food has a presence of 24.3% in movies and of 24.9% in series. Regarding sports, 7.8% of the movie sections and 8.5% of the series showed this content. **Discussion:** Among the conclusions, the need to transform the collective imaginary in relation to these kinds of harmful products is highlighted and, at the same time, the use of the media is promoted to encourage healthy lifestyle habits among consumers.

Keywords: Alcohol; Tobacco; Junk food; Sport; Netflix; Digital platforms; Series; Films; Health.

RESUMEN

Introducción: Este estudio analiza la forma en la que aparecen contenidos relacionados con el alcohol, el tabaco, la comida basura y el deporte en las 10 películas y las 10 series más vistas de Netflix. **Metodología:** Para realizar el estudio se utiliza un método de análisis conceptual basado en la codificación de intervalos de 5 minutos. **Resultados:** Los resultados señalan que el alcohol se muestra en el 32,7 % de las secciones de las películas y en el 29,8 % de las series. El tabaco aparece en el 13,2 % de los intervalos de las películas y en el 14,5 % de las series. La comida basura tiene una presencia del 24,3 % en las películas y del 24,9 % en las series. En cuanto al deporte, el 7,8 % de las secciones de las películas y el 8,5 % de las series mostraron este contenido. **Discusión:** Entre las conclusiones destaca la necesidad de transformar el imaginario colectivo en lo referente a productos gravemente nocivos para la salud. Al mismo tiempo, se promueve el uso de los medios para impulsar hábitos de vida saludables entre los consumidores.

Palabras clave: Alcohol; Tabaco; Comida basura; Deporte; Netflix; Plataformas digitales; Series; Películas; Salud.

1. Introduction

Numerous studies have shown that the entertainment we consume affects our behavior and consumption habits (Alfayad et al., 2021; Chang et al., 2016; Moreno et al., 2009). In 2022, residents of the United Kingdom spent an average of 5 hours and 16 minutes per day consuming audiovisual content (Statista, 2022a), which increasingly comes from the internet and digital platforms. Among these digital platforms, Netflix is one of the most important (Hidalgo-Marí et al., 2021), as it has approximately 223 million paid subscribers by the end of 2022, making it the most widely used and disseminated platform for audiovisual content distribution and creation worldwide (Bustos, 2020).

The impact that Netflix has on society today is undeniable. Therefore, understanding the type of messages viewers receive and how they can affect their behavior is of vital importance for an effective understanding of current society. Additionally, it is important not to forget that, apart from the content itself, the way Netflix is consumed also has serious consequences for health. Since the advent of Video on Demand (VOD) platforms, a new form of consumption known as binge-watching has emerged, which involves watching movies or series episodes uninterrupted. According to a study by Ericsson ConsumerLab (2015), 94% of VOD users in Spain engage in binge-watching on a weekly basis. Users themselves admit that this type of consumption affects their engagement in other activities, such as physical activities or leisure with friends and family, and it also affects their sleeping hours (Hernández and Martínez, 2017). Studies have shown that binge-watching affects the physical, mental, and social health of consumers, with the most common effects being lack of sleep, poor nutrition, fatigue, stress, anxiety, depression, oligospermia, and social isolation (Raj and Ida, 2022).

There are studies that link binge-watching to mental health issues among teenagers and young adults (Singh and Singh, 2022; Sy et al., 2023). When studying the impact generated by these contents on viewers, it is necessary to pay special attention to younger viewers. The adolescent stage is crucial for the development and construction of values and identities (García-Muñoz and Fedele, 2011). During this time, new habits, often harmful ones, are adopted and established in the long term (Bird and Tapp, 2008). Therefore, it is important to consider that individuals in this age group are the most susceptible to imitating or consuming the attitudes and products they see in movies and series (Gass et al., 2014; Niederkrotenthaler et al., 2019). Additionally, teenagers constitute one of the largest consumer groups of Netflix. According to a study, 8 out of 10 teenagers stream content at least once a day, compared to 2 out of 10 individuals over 60 years old (Arroyo and Guerra, 2019). For this reason, although the objective of this research is to analyze the impact that these contents have on society in general, it is sometimes necessary to pay special attention to the group composed of adolescents.

Considering this, in this research, the top 10 movies and top 10 series most viewed on Netflix were identified, and how they portray content related to alcohol, tobacco, junk food, and sports was analyzed. These specific

contents from Netflix were chosen because, apart from being relevant and highly impactful on the health of society's inhabitants, the consumption of these products is directly related to their appearance on television and digital platforms (Alfayad et al., 2021; Chang et al., 2016; Morgenstern et al., 2011). In other words, the more these products are depicted in movies and series, the more they are consumed in real life. Building upon this premise, a reverse approach was taken regarding sports: if the consumption of alcohol or tobacco in fiction is a "bad influence," portraying characters engaging in sports should motivate viewers to follow their example. With this idea in mind, the portrayal of sports in Netflix fiction was also analyzed. Subsequently, in the discussion section, the impact of these contents on the viewers who consume them was examined.

1.1. Current state of affairs

Currently, excessive alcohol consumption is one of the leading preventable causes of premature death worldwide. According to a recent study, 1 in 8 deaths of adults aged 20 to 64 in the United States were attributable to excessive alcohol consumption (Esser et al., 2022). Alcohol consumption also leads to health problems such as liver diseases, as well as mental disorders. Various studies have shown that adolescents are particularly vulnerable to engaging in alcohol consumption, as it is during this time that they experience independence in relation to food choices and lifestyles for the first time (Nielsen and Popkin, 2002; Story and French, 2004), which often leads to experimenting with alcohol and other drugs (Casey and Jones, 2010). Alcohol consumption during adolescence affects cognitive functions and results in impairments in executive functioning in adulthood (Gass et al., 2014). Furthermore, individuals who abuse alcohol during this early stage of life have a considerably higher risk of developing addiction in adulthood (Grant et al., 2001).

In addition to alcohol consumption, several studies have also shown that adolescence is a particularly susceptible period for consuming other substances harmful to health, such as tobacco (Gass et al., 2014). If we mentioned earlier that alcohol is related to 1 in 8 deaths in the United States, it is estimated that tobacco causes 1 in 5 deaths annually, making it the leading preventable cause of death in the country (American Cancer Society, 2020). On average, individuals who smoke die 10 years earlier than those who have never smoked (American Cancer Society, 2020).

Until now, the adverse effects of junk food have generally not been as widely considered as those of tobacco or alcohol. However, in recent years, concerns regarding this matter have been increasing, and the situation is becoming alarming. On one hand, the excessive consumption of junk food- high-calorie foods that contain high levels of saturated fats, refined sugars, and very few nutrients- leads to obesity (Malik et al., 2012), a disease that has reached pandemic proportions (Boutari and Mantzoros, 2022). The global prevalence of obesity has nearly tripled since 1975, mainly due to the adoption of increasingly sedentary lifestyles and the consumption of unhealthy diets (Boutari and Mantzoros, 2022). In Europe, overweight and obesity affect nearly 60% of the population and 1 in 4 adolescents (World Health Organization [WHO], 2022a). Recent studies have shown that overweight and obesity are the fourth leading risk factor for non-communicable diseases in Europe- including cancers and cardiovascular diseases- and are also the leading risk factor for disability (WHO, 2022). Obesity is also associated with increased morbidity and mortality from COVID-19 (WHO, 2022), and along with tobacco and alcohol, it is another major cause of premature death (Jebb, 2004). Furthermore, far from decreasing, global obesity is on the rise. According to the World Obesity Atlas 2022, published by the World Obesity Federation, obesity cases are currently on track to double their total number worldwide, and it is estimated that by 2030, there will be one billion people with obesity across the globe (2022).

However, obesity is not the only problem associated with excessive consumption of junk food, as several studies have also shown that consuming this type of food affects brain function, causing cognitive impairments, decreased executive performance, altered reward processing, and disruption in memory function in hippocampus-dependent tasks (Abbott et al., 2016; Francis and Stevenson, 2011; Kanoski and Davidson, 2011; Labouesse et al., 2017; Nyaradi et al., 2014).

Taking this into account, it is evident that in order to improve the health of the population as a whole, it is imperative to take measures related to both a healthy diet and adopting a healthier lifestyle. One of these measures can be the promotion of sports, as physical inactivity is one of the main risk factors for obesity. Numerous studies have

shown that children and adolescents involved in sports tend to be in better physical condition than their non-involved peers and are more likely to engage in physical activities in the long term (Alfano et al., 2002; Ara et al., 2006), leading to better overall health conditions. For this reason, this element was chosen as the final object of study in the research.

"The aim of the present study is to analyze the way in which certain health-related content appears in Netflix series and movies."

To choose the variables analyzed in the study, a recent report from the World Health Organization (2022b) was considered, which details the main health issues affecting adolescents and young adults. This report identifies the following aspects as the current main health problems: injuries and trauma, violence, mental health, alcohol and drug use, tobacco use, HIV/AIDS, other infectious diseases, early pregnancies and childbirth, nutrition and micronutrient deficiencies, malnutrition and obesity, and physical activity. Among all these factors mentioned by the WHO, those that could be most influenced by their appearance in digital platforms were selected. On one hand, violence, mental health, and HIV/AIDS were chosen for analysis¹. On the other hand, this study focuses on alcohol, tobacco, junk food, and sports.

1.2. Study objectives

The objective of this study is to analyze the way certain health-related content appears in Netflix series and movies. Specifically, the study aimed to examine the presence of alcohol, tobacco, junk food, and sports in the top 10 most-watched series and movies on Netflix. The goal was to plan and develop proposals based on solid knowledge and contribute to raising awareness among digital platform consumers and the general population about their consumption habits.

2. Methodology

The top 10 most-watched movies and series on Netflix were selected based on official data provided by the company². Netflix measures viewership based on the number of hours each title is watched within the first 28 days of its release. It is important to note that longer movies and series have a higher likelihood of appearing on the list. For example, if a 3.5-hour movie like *The Irishman* is watched to completion three times (totaling 10.5 hours), it would rank higher in this classification than a 1-hour movie that has been watched 10 times (10 hours total). It is impossible to accurately calculate the number of individuals consuming a particular content since there is currently no way to know how many people are watching behind each screen. Therefore, this method 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-minute intervals, which is commonly used in content analysis research (Alfayad et al., 2021; Bhagawath et al., 2021; Hazan et al., 2011). To do this, an ad hoc table was created to record the following variables. On one hand, it included the name of the movie/series, its genre, age rating, and hours streamed on Netflix. On the other hand, each piece was divided into 5-minute intervals, and it was analyzed whether contents related to alcohol, tobacco, junk food, and sports appeared in each interval³. When analyzing the content, a distinction was made between whether each of them was shown directly or indirectly. It was considered direct when the action was explicitly shown (e.g., drinking alcohol, smoking tobacco...) and indirect when there was a mention of that element without showing it (e.g., a character mentioning that they feel like drinking alcohol...) or when it was implied that the action had taken place without being shown directly (e.g., the appearance of a drunken person). In addition to recording whether the contents appeared and whether they did so directly or indirectly, any peculiarities related to the objects of study that could be relevant were also noted or observed (e.g. if a specific product within junk food content had special significance).

¹ To access the specific profiles of each movie/episode of the series, please contact the authors.

² www.top10.netflix.com

³ For specific information on each film/series chapter, please contact the authors.

After adding up the sections that included the analyzed content, the total percentages corresponding to each work were calculated. For example, if the movie *Red Notice* consists of 22 sections, of which 7 show alcohol content, its alcohol percentage will be 31.8%. In the case of TV series, each episode was analyzed separately, and then the average for the season was calculated. Subsequently, for a better interpretation of the data, both the average of the 10 movies and the average of the 10 series were calculated.

The analyzed movies had a total duration of 21 hours and 56 minutes, which translated to 248 5-minute sections (excluding intervals corresponding to credits). The titles, genres, age recommendations, and hours viewed in the first 28 days are presented in Table 1. The data was collected on November 21, 2022.

Table 1. Summary of selected movies.

Movies	Genre	Age rating	Hours broadcasted
<i>Red Notice</i>	Action	12+	364.020.000
<i>Don't Look Up</i>	Comedy/Political satire	16+	359.790.000
<i>Bird Box</i>	Action/Sci-Fy	16+	282.020.000
<i>The Gray Man</i>	Action	16+	253.870.000
<i>The Adam Project</i>	Action/Sci-Fy	12+	233.160.000
<i>Extraction</i>	Action	18+	231.340.000
<i>Purple Hearts</i>	Drama	12+	228.690.000
<i>The Unforgivable</i>	Drama	16+	214.700.000
<i>The Irishman</i>	Gangster cinema	16+	214.570.000
<i>The Kissing Booth 2</i>	Romantic Comedy	7+	209.250.000

Source: Author's own work.

The series had a total duration of 96 hours and 55 minutes of the broadcast. Excluding credits, 1,128 intervals were analyzed (Table 2).

Table 2. Summary of selected series.

Series	Genre	Age rating	Hours broadcasted
<i>Squid Game</i>	Action/Suspense	16+	1.650.450.000
<i>Stranger Things 4</i>	Sci-Fy/Mistery	16+	1.352.090.000
<i>DAHMER - Monster: The Jeffrey Dahmer Story</i>	Drama/Suspense	18+	856.220.000
<i>La Casa de Papel 5</i>	Action/Police Drama	16+	792.230.000
<i>The Bridgerton 2</i>	Romance/Historical Drama	16+	656.260.000
<i>The Bridgerton 1</i>	Romance/Historical Drama	16+	625.490.000
<i>La Casa de Papel 4</i>	Action/Police Drama	16+	619.010.000
<i>Stranger Things 3</i>	Sci-Fy/Mistery	16+	582.100.000
<i>Lucifer 5</i>	Police Drama	16+	569.480.000
<i>All of Us are Dead</i>	Horror	16+	560.780.000

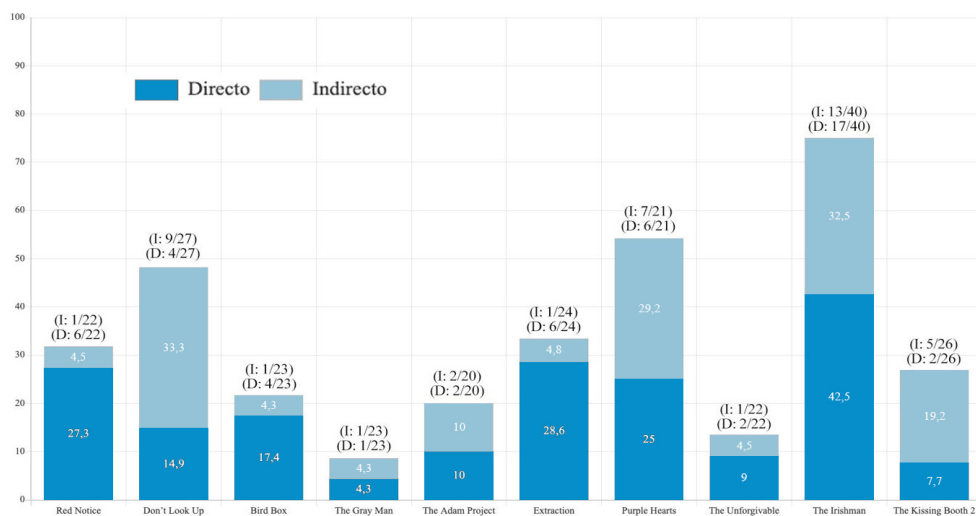
Source: Author's own work.

3. Results

3.1. Alcohol

18% of the sections in the analyzed movies directly depicted alcohol consumption, while 14.7% indirectly portrayed it. This means that a total of 32.7% of the analyzed intervals showed content related to alcohol. It's worth noting that all the movies analyzed (10/10) depicted alcohol consumption to some extent. Even in *The Kissing Booth 2*, targeted towards a young audience, alcohol consumption was depicted in 7 out of its 26 intervals (6 directly and 1 indirectly) (Figure 1).

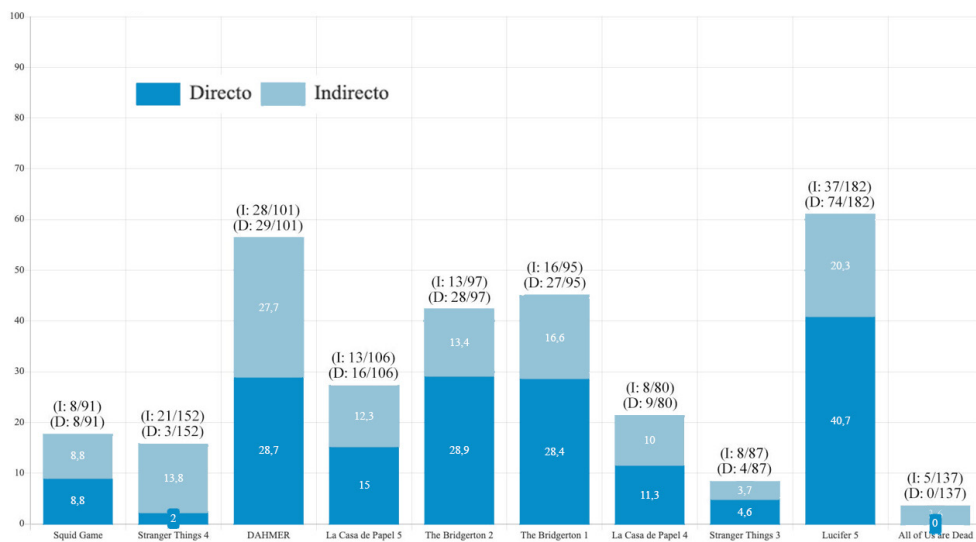
Figure 1. Percentage of intervals with alcohol content in films.



Source: Author's own work.

In the case of the series, 16.8% of the intervals directly depicted alcohol consumption, while 13% did so indirectly (Figure 2). This adds up to a total of 29.8% of the sections.

Figure 2. Percentage of intervals with alcohol content in series.

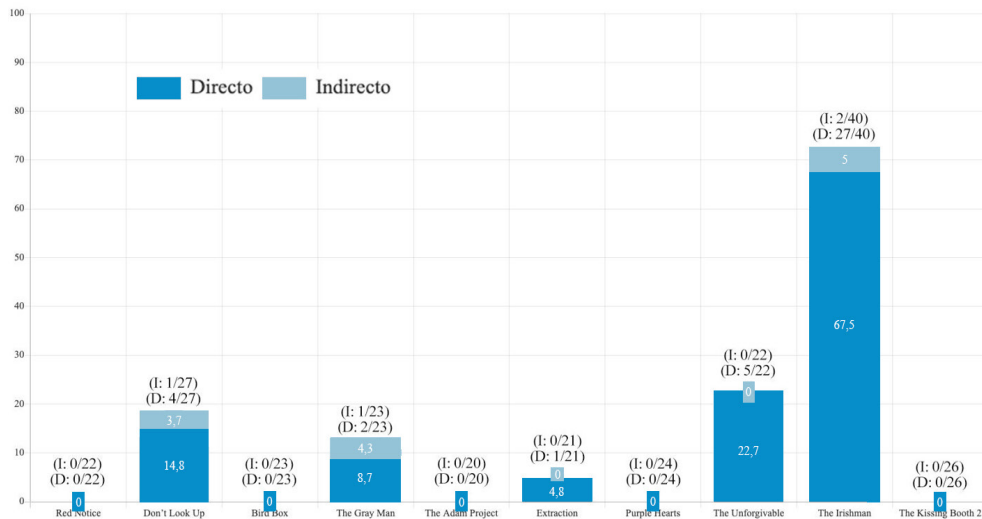


Source: Author's own work.

3.2. Tobacco

Tobacco was shown in 11.9% of intervals directly and in 1.3% indirectly in the movies. However, it is important to note that while alcohol appeared in all analyzed films, 5 out of the 10 movies did not show any tobacco-related imagery. As seen in Figure 3, it is the gangster film *The Irishman*, with a total percentage of 72.5%, that increases the overall figure for this variable. Excluding this film, the other 9 works would have an average of 5.7% of intervals with direct tobacco consumption and 0.9% with indirect references.

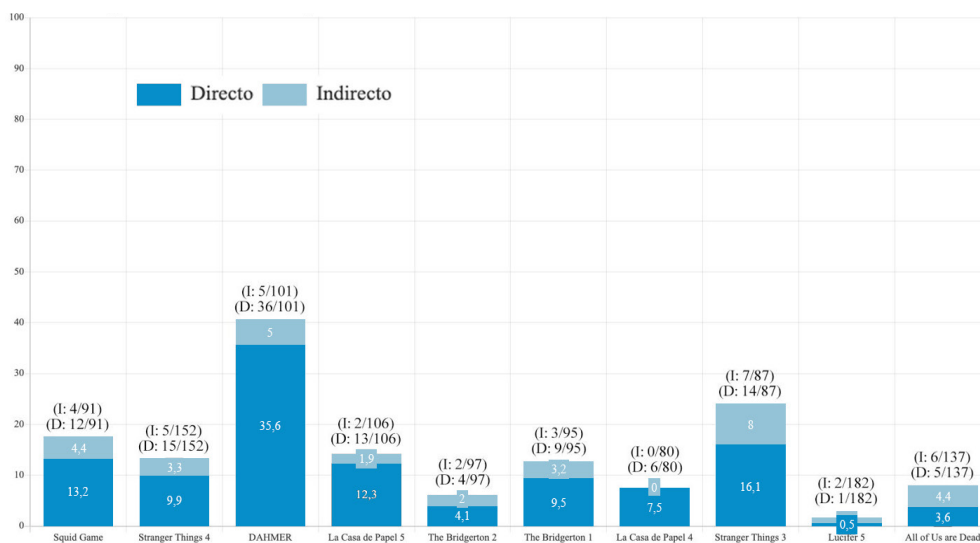
Figure 3. Percentage of intervals with tobacco content in films.



Source: Author's own work.

Regarding the series, tobacco appears in all 10 works (Figure 4). The overall average was 14.5%. 11.2% of the intervals showed direct tobacco consumption, while 3.3% showed indirect references.

Figure 4. Percentage of s with tobacco content in series.

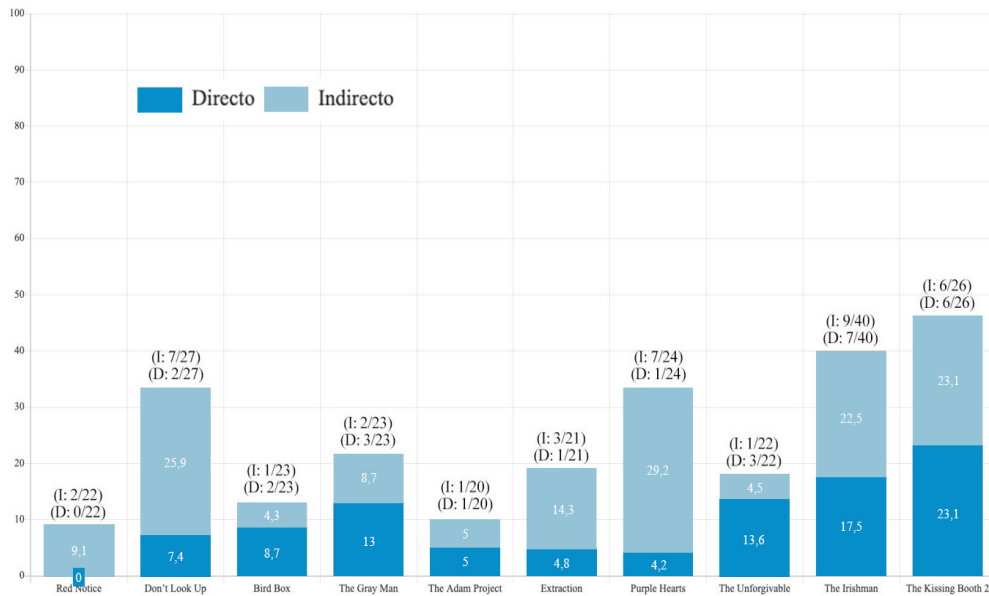


Source: Author's own work.

3.3. Junk Food

Regarding the movies, junk food consumption was shown in 9.7% of the analyzed intervals, and references to this content were observed in another 14.6% of the sections (Figure 5). This means that, in total, 24.3% of the intervals showed content related to junk food.

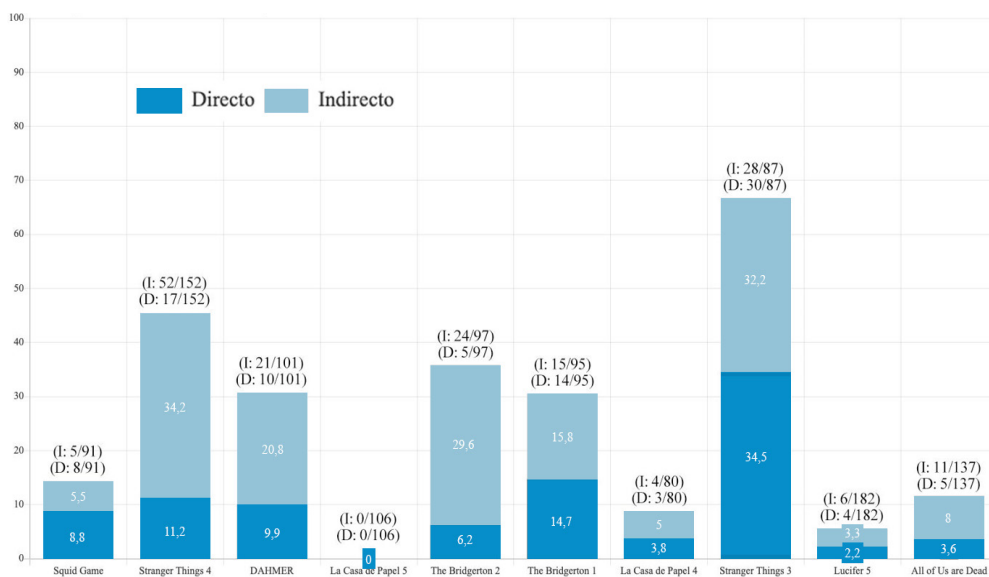
Figure 5. Percentage of intervals with junk food content in movies.



Source: Author's own work.

In the case of the series, content related to junk food was shown in 24.9% of the intervals. Explicit consumption of junk food was depicted in 9.5% of the sections, while in the remaining 15.4%, the reference was indirect (Figure 6). The most frequently featured products were soft drinks (mainly Coca-Cola) and sweets or candies.

Figure 6. Percentage of intervals with junk food content in series.

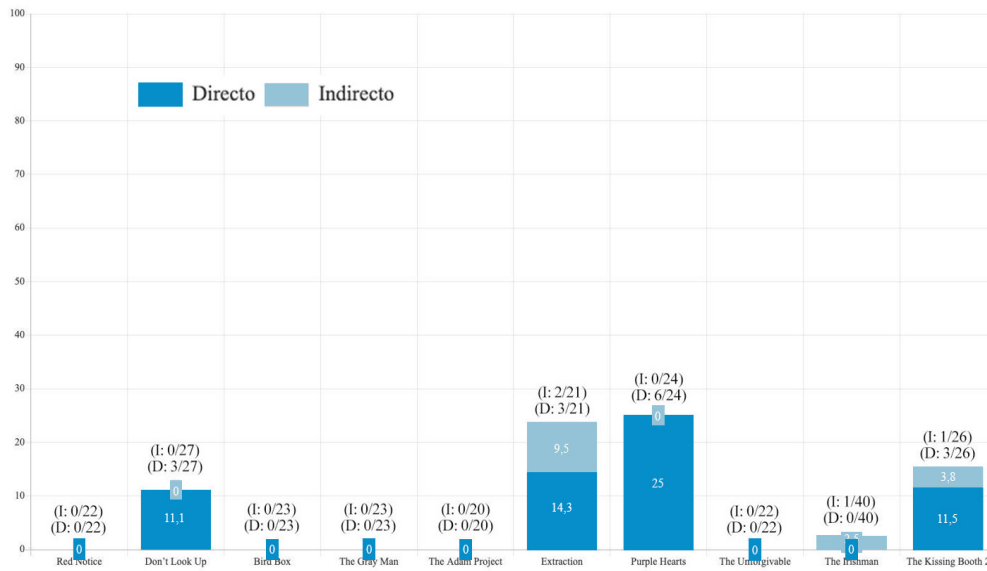


Source: Author's own work.

3.4. Sports

Sports activities by characters were observed in 6.2% of the intervals in movies, and indirect references to sports, mainly in the form of television images, were seen in 1.6% of them (Figure 7).

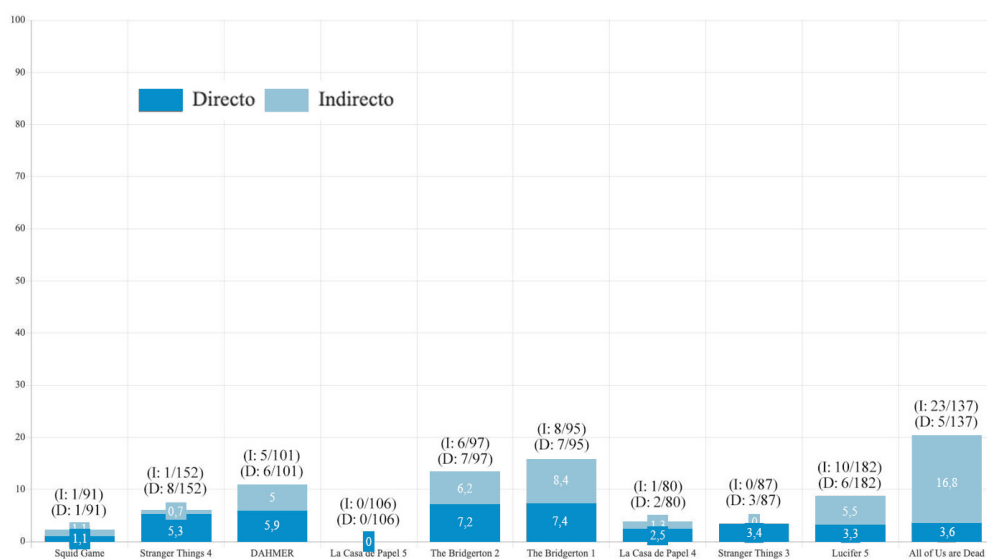
Figure 7. Percentage of intervals with sports content in films.



Source: Author's own work.

8.5% of the intervals in the series showed images related to sports: 4% directly and 4.5% indirectly (Figure 8).

Figure 8. Percentage of intervals with sports content in series.



Source: Author's own work.

3.5. Percentage breakdown by genre

The following tables present the data regarding the genres of the movies and series. Table 3 shows that, in the case of movies, the genre that presents the highest amount of alcohol, tobacco, and junk food directly is gangster cinema, with a significant difference. As for sports content, comedy and drama genres show more of it compared to action and gangster cinema, which barely feature this content.

Table 3. Percentages according to the genre of the films.

Genre	Movies	Percentages (indirect/ direct)			
			Tobacco	Junk Food	Alcohol
Action	<i>Red Notice, Bird Box, The Gray Man, The Adam Project, Extraction</i>	1.8% 2.7%	8.3% 6.3%	5.6% 17.5%	1.9% 1.1%
Comedy	<i>Don't Look Up, The Kissing Booth 2</i>	1.8% 7.4%	24.5% 15.2%	26.2% 11.3%	1.9% 11.3%
Drama	<i>Purple Hearts, The Unforgivable</i>	0% 11.3%	16.8% 8.9%	16.8% 17%	0% 12.5%
Gangster Movies	<i>The Irishman</i>	5% 67.5%	22.5% 17.5%	32.5% 42.5%	0% 0%

Source: Author's own work.

As for the series, Table 4 shows that drama is the genre where tobacco is most prominently featured directly. Regarding junk food, comedy takes the lead, while alcohol is mainly presented in drama and romance genres. In terms of sports content, the romance genre shows the highest representation of this activity, although the percentage does not exceed 10%. It is also worth mentioning that in the other genres, the numbers are close to zero.

Table 4. Percentages according to the genre of the series.

Genre	Series	Percentages (indirect/ direct)			
			Tobacco	Junk Food	Alcohol
Action	<i>Squid Game</i>	4.4% 13.2%	5.5% 8.8%	8.8% 8.8%	1.1% 1.1%
Sci-Fy	<i>Stranger Things</i>	5.6% 13%	33.2% 22.8%	17.5% 3.3%	0.3% 4.3%
Drama	<i>DAHMER</i>	5% 35.6%	20.8% 9.9%	27.7% 28.7%	5% 5.9%
Romance	<i>The Bridgerton</i>	2.6% 6.8%	22.7% 10.4%	15% 28.6%	7.3% 7.3%
Police drama	<i>La casa de papel, Lucifer</i>	0.6% 6.7%	2.7% 2%	6.15% 7.7%	2.1% 1.9%
Horror	<i>All of Us are Dead</i>	4.4% 3.6%	8% 3.6%	3.6% 0%	16.8% 3.6%

Fuente: Elaboración propia.

4. Discussion

4.1. Alcohol and Tobacco

As observed, 32.7% of movie sections and 29.8% of series sections contained images related to alcohol. As mentioned at the beginning of this article, the more alcohol is portrayed in movies and series, the more it is consumed in real life. Taking this into consideration, the fact that 3 out of 10 intervals in all the analyzed fiction depicted alcohol seems concerning.

However, beyond the quantity, it is essential to engage in a debate about the imagery being created around these concepts. Merely depicting alcohol or tobacco in fictional works does not necessarily lead teenagers to consume these products. The reason why most teenagers start drinking alcohol or smoking tobacco is not biochemical but social (Bird and Tapp, 2008; Moreno et al., 2009). According to Hastings et al., teenagers begin to consume these substances "to belong, to rebel, to express their individuality, to take risks, to appear older, to be cooler" (1997, p. 439). What prompts teenagers to consume alcohol is the perception that it is cool, fun, sophisticated, etc. Therefore, the most concerning aspect is not the frequency of alcohol portrayal in fiction, but how it is depicted. As explained by social cognitive theory (Bandura, 1986), depending on the outcomes experienced by fictional characters when engaging in an action- in this case, consuming alcohol or smoking tobacco- the observer will decide whether to replicate that action or not.

Movies can convince young people that drinking alcohol is cool, as well as portray it as a dangerous attitude toward health. Among the analyzed series, examples of both situations were found. On one hand, in the series *Lucifer*, the protagonist is a young, attractive, and intelligent man. In this case, the creators of the series use alcohol to reinforce these characteristics of the character. *Lucifer* is almost always seen holding a glass of whiskey, and this element makes him appear even cooler and more sophisticated. On the other hand, in *Dahmer*, alcohol is depicted as a notably problematic element that causes addiction. Therefore, beyond regulating or restricting the appearance of alcohol in series and movies, perhaps the focus should be on how this product is portrayed in society.

In this regard, the process that has been carried out with tobacco can shed light on the path that alcohol should follow. A few decades ago, it was common to see Humphrey Bogart or John Wayne- who, by the way, died from esophageal and lung cancer, respectively- constantly smoking cigarettes on screen. In those times, smoking tobacco was something that reinforced their masculinity. Nowadays, however, smoking tobacco has undergone a process of "denormalization" (Burton et al., 2015; Scheffels and Togle, 2017), and the act of smoking a cigarette is no longer as appealing. As seen in the research, the amount of tobacco seen on screen has also decreased (its percentages were approximately half of those of alcohol).

There are indications that the image of alcohol, as happened with tobacco, is also changing in society. According to a study conducted in 2022 in the United Kingdom, currently, one-third of all pub visits are alcohol-free (KAM, 2022). In addition to that, according to the alcohol education group Drinkaware, 26% of young people aged 16 to 24 in the UK do not drink alcohol (2022). The non-alcoholic beverage industry has grown by over 50% since 2015 (Statista, 2022b), and some well-known magazines aimed at young audiences, such as *Vice*, claim that drinking alcohol is no longer cool⁴.

It can be argued, therefore, that in younger generations, a change is already taking place regarding the image of alcohol, which will undoubtedly be accompanied by a change in the way this element is used in fiction. What we should consider is whether it is right for the audiovisual industry to lag behind this process, as the data obtained in this research seems to indicate, or if, on the contrary, platforms like Netflix should be a reference and a driving force in the process of changing the image of harmful products to health such as alcohol and tobacco.

⁴ <https://www.vice.com/en/article/xgyg5q/drinking-isnt-cool-anymore>

4.2. Junk Food

Commonly, when talking about junk food, the first things that come to mind are pizzas, hamburgers, or french fries. However, and although these products also appeared in the analyzed audiovisual works, it is worth noting that a high percentage of the content related to junk food was due to the presence of candies or sweets. These sweets play a significant role in movies like *The Gray Man* (21.7%), where the protagonist has a great fondness for candies, or in the period drama series *The Bridgerton* (30.5% and 35.8%).

Additionally, it is necessary to mention the enormous volume of images that included sugary drinks. For example, in Season 3 of the series *Stranger Things*, which was viewed by over 64 million Netflix accounts in just its first month⁵, there wasn't a single episode where the Coca-Cola brand was not shown. This brand also appeared in other series and movies. A striking example is the movie *Red Notice*, which had the highest number of hours streamed and over 100 million views on Netflix. Around the 7-minute mark of the film, one of the main characters clearly displays a can of this well-known brand.

The viewer is facing a marketing strategy for brands known as product placement, which typically involves incorporating products and brands into movies and series in exchange for money. Product placement is becoming increasingly popular and is evolving into a standard and widely accepted marketing channel (Story and French, 2004). According to the company Concave Brand Tracking, although there is no official agreement between the series and the brand, the visibility that *Stranger Things* provided to Coca-Cola in just the first three days of airing the third season is estimated to be worth 1.5 million dollars⁶. The Burger King brand also has a notable presence in this series, appearing in 5 out of the 8 episodes. In fact, the fast food chain took advantage of the collaboration with the Netflix series to launch a campaign and offer "Upside-Down Whopper" burgers, inspired by the series, to its customers⁷.

The case of product placement in the series *La Casa de Papel* is equally remarkable, although in this case, the promoted product is a beer brand, specifically Estrella Galicia. Once again, the brand took advantage of the collaboration with the Netflix series to launch a special edition of their beer related to the show⁸. In 2021, Estrella Galicia won the Eficacia Award for the best integrated campaign thanks to its collaboration with *La Casa de Papel*. The campaign reached over 20 million people in Spain alone⁹, the country of origin for both the series and the brand. Additionally, website traffic increased by 229% thanks to the promotion, and the special edition of the beer sold out in just a few weeks. Moreover, sales grew by 27.8% compared to the same period of the previous year.

Considering what has been discussed in the previous point regarding creating a cool image associated with alcohol and tobacco, it is evident that the case of junk food has the most ground to cover in this regard. Additionally, a reflection on the ethics of conducting these product placement campaigns should be raised, where the favorite series and movies of teenagers are used to make them believe that consuming these harmful products is cool.

In the case of tobacco, different governments have been involved in efforts to reduce its consumption, employing a combination of mandatory warnings or advertising restrictions, labeling, media campaigns, taxes, and spatial restrictions that have ultimately prohibited smoking in most public places (Philipson and Posner, 2008). However, few measures have been taken to limit the consumption of junk food. It is true that these are different cases. Smoking tobacco is an optional action, whereas all human beings need to eat, and sometimes it is challenging to define what is healthy food and what is not. Factors such as product costs, accessibility, and the belief that consuming junk food is cheaper than healthy food comes into play. Consequently, many people

⁵ <https://deadline.com/2019/10/stranger-things-season-3-viewers-netflix-statistics-1202761915/>

⁶ www.concavebt.com

⁷ <https://edition.cnn.com/2019/06/13/business/burger-king-stranger-things/index.html>

⁸ <https://www.youtube.com/watch?v=vPmPvpSScF8>

⁹ <https://acortar.link/k7t5hd>

would not support the implementation of taxes on junk food, and other measures such as calorie taxes would not currently be feasible or effective (Philipson and Posner, 2008).

Considering the above, it can be concluded that regulating junk food legally is not as straightforward as regulating tobacco or alcohol. However, given that food advertising is one of the main factors influencing the eating habits of young people (Story and French, 2004), regulating its appearance in the media could be an effective measure to reduce its consumption in general and especially among adolescents. Additionally, psychological factors such as emotional dysregulation, anxiety, stress, negative mood, distortion in body image perception, and self-esteem are also involved in the multifactorial etiology of eating disorders (Markey and Vander Wal, 2007; Sassaroli and Ruggiero, 2005), so addressing the psychological aspect of consumers would also be an effective measure to reduce the consumption of junk food.

4.3. Sports

Poor nutrition is not the sole culprit of the current obesity pandemic. There are many factors influencing this issue, with the adoption of an increasingly sedentary lifestyle being one of the main causes (Boutari and Mantzoros, 2022; Hills et al., 2011). In the face of this complex problem, one of the solutions is to promote physical activity (Hills et al., 2011; Wareham et al., 2005).

As mentioned before, various studies show that children and adolescents involved in sports tend to have better physical fitness than their non-involved peers (Alfano et al., 2002; Ara et al., 2006). However, some studies reveal that young people who engage in sports also consume more junk food and sugary drinks, so it is unclear whether the increased energy expenditure associated with sports is adequately offset by the additional energy intake (Croll et al., 2006). It is common for snacks and sugary beverages, including energy drinks, to be sold at sports events, and it is also common for both parents and participants to bring these types of products to the events. Sports drinks like Powerade or Gatorade are frequently promoted to these young athletes (Nelson et al., 2011). These habits should be taken into account because the impact of youth participation in sports on obesity prevention depends on the balance between calorie consumption and physical activity (Nelson et al., 2011).

In addition to that, it is important not to forget that sports or exercise - or rather, their absence - is not only related to obesity; in fact, physical inactivity is one of the major risk factors for non-communicable diseases and chronic conditions, including diabetes, hypertension, cardiovascular diseases, various types of cancer, stress, depression, and anxiety (see Samitz et al., 2011 for a meta-analysis on the effects of physical activity on mortality).

Some studies propose providing health and nutrition training to parents and coaches (Nelson et al., 2011). Others argue that offering direct intervention in schools could overcome attendance barriers seen in more traditional weight control programs that take place in medical centers and are less accessible to low-income or racially and ethnically diverse populations (Tershakovec and Kuppler, 2003). Additionally, the approach proposed in this research is related to the use of media to motivate young people and adults to engage in sports and adopt a healthy and balanced diet.

4.4. Percentages by gender

As we have mentioned, cinema has its narrative, and the mere depiction of alcohol, tobacco, or junk food does not necessarily mean that viewers are inclined to consume these products in all cases. The way in which these contents are portrayed is of paramount importance, and at the same time, the genre of the work also plays a significant role. We have seen that the film that depicted the most tobacco was *The Irishman*, a gangster genre film. Similarly, the presence of alcohol and junk food was also high in this movie, while the importance of sports was non-existent. However, it is reasonable to interpret that in this type of film, elements like tobacco can be used to create an atmosphere, and their influence on viewers may not be as significant as it could be in other types of fiction. Similarly, the series *Stranger Things* is set in the 1980s and often uses products from that era, mainly junk food products, to place the viewer in that historical moment and also to play with the element of nostalgia.

In this way, we observe that the genre and specific circumstances of each audiovisual work should be taken into account when assessing the real impact that their contents can have on viewers. In this regard, we encourage conducting research with larger samples to examine the elements that are most commonly used in each genre and determine the differences in how they affect viewers.

5. Conclusions

This study has shown that among the top 10 most-watched series and movies on Netflix, there is a considerable presence of alcohol, tobacco, and junk food. It has also demonstrated that sports barely appear in the analyzed works. Considering the effect that digital platforms have on viewers' behaviors, the study highlights the widespread presence of unhealthy habits and emphasizes the need to transform the collective imaginary regarding these harmful products for health. At the same time, it promotes the use of media to foster healthy lifestyles among consumers.

In relation to the practical implications of this study, it is proposed to create or promote interventions aimed at increasing healthy habits such as physical activity, a good diet, or the absence of drug consumption. It would also be interesting and necessary to design interventions that promote critical thinking to analyze and reflect on what is consumed (and how) in the media. Finally, considering the relationship between emotional intelligence (EI) and the variables analyzed in this study (sports, diet, tobacco, and alcohol), the implementation of programs to improve EI in the general population, but especially in children and adolescents, is proposed. This aims to enhance individuals' ability to identify, understand, express, regulate, and use their emotions, thereby reducing substance consumption and increasing both physical activity and a healthy diet (see Sarrionandia and Mikolajczak, 2019 for a meta-analysis).

This study makes several contributions to the literature. Firstly, it presents novel research conducted in a field that encompasses both health and audiovisual sciences, making it an interdisciplinary work. In fact, it addresses a topic that has been relatively underexplored yet is highly relevant and of vital importance, as it impacts the health of society.

Furthermore, this work opens new avenues for future research, as it has identified several areas for improvement or further development. In terms of future investigations, it would be interesting to analyze in more depth the way these elements appear not only on Netflix but also on other platforms, considering variables such as the age of the characters, their gender, and more. Additionally, social media has become a key element for the audiovisual industry (Fernández-Gómez et al., 2022; Martín-Quevedo et al., 2021), and as Fernández-Gómez and Martín-Quevedo state, "on these platforms, everything revolves around participation and sharing" (2018, p. 1293). Therefore, in addition to studying the content within the platform itself, further research on the strategies and tactics employed by these platforms on social media is of particular interest to the industry (Martín-Quevedo et al., 2019). Lastly, it would also be highly valuable to design and evaluate awareness and media literacy programs aimed at shaping how viewers receive and assimilate the various content they consume.

Finally, it is important to acknowledge that this study is not without limitations. On one hand, as explained, the way in which the objects of the study appear in fiction is more important than the quantity, making it impossible to establish a causal relationship between viewing these products and their consumption that is valid for all cases. Each film and series has its own characteristics, and in order to achieve a deep understanding, each work would require a specific analysis. On the other hand, it would also be interesting to conduct a specific study that analyzes the appearance of health-harmful products in the series and films most consumed by adolescents, as, as we have mentioned, individuals in this age group are the most susceptible to imitate or consume the attitudes and products they see in fiction.

"When analyzing the contents, we differentiated whether each one of them was shown directly or indirectly"

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