

# Real Talk: A Case Study on HBO’s *Euphoria* Viewer Discourse on Substance Use

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**Introduction.** Drug-induced overdose deaths are projected to reach over a million by 2029 [3], coinciding with the growing prevalence of nuanced depictions of drug use and addiction in music videos, films, and TV shows. This trend is particularly popular among younger audiences and teenagers [2, 6]. Critics are concerned that such media products may normalize drug use, influence attitudes towards addiction, and present an unrealistic portrayal of the consequences or absence thereof, related to drug use. We investigate the potential ramifications of the portrayal of Substance Use Disorder (SUD) on the occurrence and management of SUD in the audience. For this purpose, we analyze HBO’s *Euphoria*, one of the most watched and most tweeted-about shows of recent years [5]. *Euphoria* is a US teen drama series exploring complex dynamics of teenagers navigating drugs, sex, and trauma. While praised for inclusivity, aesthetics, and challenging traditional TV portrayal of identity, some find its depictions of drug abuse, strong language, and sexual/physical violence troubling [1]. Warnings and a crisis hotline have been set up by HBO due to concerns that the series could trigger those with SUD. Some worry that the show glamorizes drug use and normalizes harmful behavior, particularly among teens, as it heavily depicts themes like substance use, sexual assault, and violence [7, 4]. From user-generated content of HBO’s *Euphoria* on Reddit, we seek to investigate two research questions: (RQ1) In what ways do the contexts surrounding substance use vary within different groups of posts in the subreddit *r/euphoria* vs. drug subreddits? (RQ2) How do viewers on *r/euphoria* discuss personal experiences with substance use?

**Data.** To understand the impact of *Euphoria*, we analyze user-generated posts related to the show on Reddit, as it provides a pseudo-anonymous and safe space for discussing stigmatized topics. We collect posts in a subreddit dedicated to *Euphoria* (*r/euphoria*) (N = 14,896) from June 2019 to June 2022, to understand the discourse around drug use and how the show was perceived by the public. To analyze the audience’s online behavior toward four popular drugs frequently portrayed on the show, heroin and Oxycodone (opiates), ecstasy (MDMA), benzodiazepines, and stimulants, and whether the show prompts curiosity about them, we extract and examine posts from subreddits: *r/mdma*, *r/ecstasy*, *r/opiates*, and *r/benzodiazepines* (N = 175,818), over a five-year period. We then cluster the posts into three groups as (1) posts made by users only active on *r/euphoria* (Group *E*), (2) posts made on *r/euphoria* by users who are active on *r/euphoria* and active on at least one drug subreddit (Group *E<sub>D</sub>*), and (3) posts made on drug subreddits by users active on *r/euphoria* (Group *D<sub>E</sub>*).

**Methods.** To capture the contextual meaning and semantic relationships around SUD-related words (RQ1), we used word2vec to obtain vector representations of words in our datasets. A skip-gram model was used for the smaller dataset *E<sub>D</sub>* (N = 366), while CBOW was used when training models on *E* and *D<sub>E</sub>*. To identify relevant terms related to various stages of drug use and addiction, we reviewed literature and selected seed terms based on its relevance and appropriateness to each stage. This resulted in a list of 19 terms (Tab. 1).

For the analysis of personal experiences with drugs (RQ2), posts were manually labeled to extract mentions of personal experiences with drug use. Latent Dirichlet Allocations (LDA) and open coding were used to extract latent topics and common themes, providing a deeper understanding of the show's impact and how its viewers experienced the show's themes. Finally, psycholinguistic analysis with using LIWC was employed to gain a deeper understanding of the language and discourse patterns used in personal experience posts related to SUD on  $E_D$ , and to identify any distinctive linguistic or discourse features related to these discussions.

<b>Experiment</b>	anxiety, depress, use, curious, trip
<b>Risky Use</b>	abuse, harm, community, illegal, risk
<b>Dependence</b>	addict, binge, tolerance, spiral
<b>Treatment</b>	relapse, recovery, impact, program, clean

Table 1: Four addiction stages' words

**Results.** Results showed that viewers of *Euphoria* who were not active in drug-related subreddits used words around dependence and treatment more, suggesting that the show's themes had an impact on the discourse. Training a word2vec using posts revealed that redditors are engaging in a variety of discussions around each stage of substance use, such as feelings of anxiety and depression, withdrawal, and information on the usage of particular substances. The words with the highest frequency were more associated with the "Experiment" phase. Comparing the contexts (Fig. 1) around "anxiety" in three groups of data showed similar patterns, mostly discussions related to various health and mental problems. Words surrounding "spiral" in  $E$  pertained to the themes and characters of the show, while the words in  $D_E$  had a more personal and emotional connotation. Manually annotating the posts showed that 45 of the 366 posts consisted of discussions related to personal experiences. When specific substances were named, redditors mentioned experience with a wide variety, including marijuana, heroin, opiates, fentanyl, alcohol, molly (MDMA), Xanax, ketamine, ecstasy, mushrooms, and benzodiazepines. Topic modeling of the personal posts revealed three latent topics, with the most relevant words around the struggles of the main character "Rue" with addiction. Thematic analysis revealed that "relatability" (themes as well as characters) was the most prevalent theme, while 6 out of 45 posts discussed the show's accuracy in portraying either addiction or withdrawal (Figure 2). The results show the significant impact of the show on viewers and the importance of analyzing personal experiences related to SUD. Feeling seen is crucial for those with drug addiction, and subreddits like *r/euphoria* offer community and support for sharing experiences and connecting with others who understand.

## References

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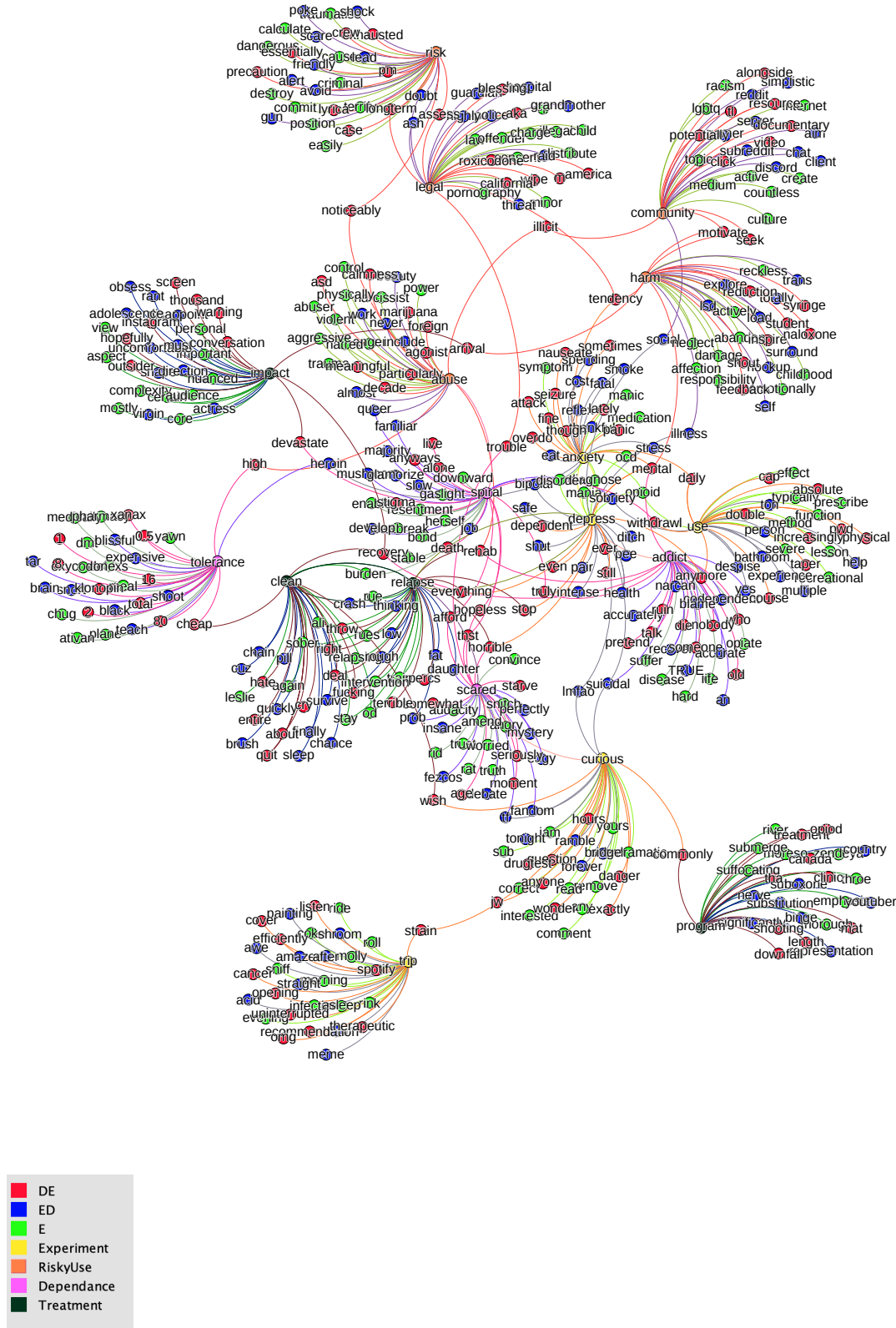


Figure 1: Contextual analysis of words related to SUD in different stages of addiction (seed terms). Top 10 adjacent words to SUD words are presented.  $D_E$ : words from posts in drug communities and the author is also active in *r/euphoria*,  $E_D$ : words from posts in *r/euphoria* and author is also active in drug communities, and  $E$ : words from posts in *r/euphoria* only.

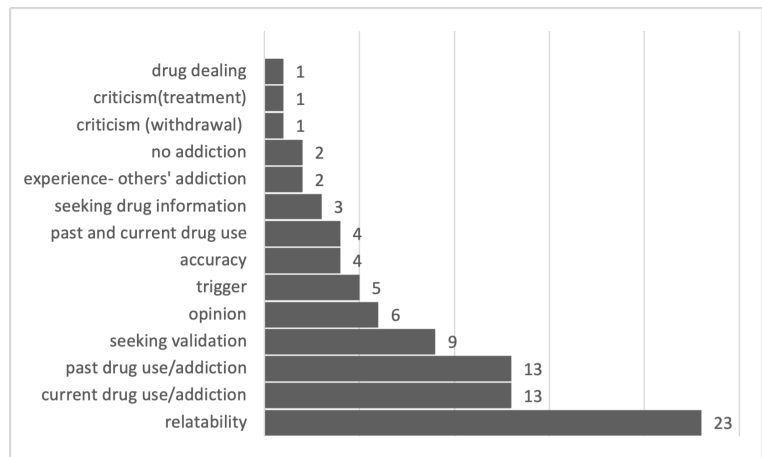


Figure 2: The most prevalent themes in posts discussing personal experiences from users active on both r/Euphoria and drug subreddits ( $E_{DP}$ )