Netflix and Ill? Emotional and Health Implications of Binge Watching Streaming TV

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ABSTRACT

It has been suggested in some preliminary and somewhat anecdotal work that the effects of binge watching platforms such as Netflix, Hulu and Amazon Prime have been reported to include depression, chronic illness, weight gain, sleep disorders, and a suffering sex life. This study reports on analyses of survey data comprising college students and finds that increased binge watching shows differential and largely non-negative effects across emotional and health domains.

CCS CONCEPTS

• **Human-centered computing → Human computer interaction (HCI);** *HCI design and evaluation methods;* User studies

KEYWORDS

Streaming TV, Binge Watching, Emotional Well-Being, Physical Health, Academic Performance

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1 INTRODUCTION

It has been suggested in some preliminary and somewhat anecdotal work that the effects of binge watching platforms such as Netflix, Hulu and Amazon Prime have been reported to include depression, chronic illness, weight gain, sleep disorders, and a suffering sex life.

In addition, media researchers [1] have specifically suggested that watching Netflix and other forms of online entertainment has potentially serious consequences for the health of democracy. In unpacking an underlying causal mechanism, they suggest that spending more time with online entertainment, such as streaming television, posting selfies, listening to music and playing video games online can entrench authoritarian attitudes and reduce citizens' interest in politics.

Given this dim initial assessment, it is worth considering just how big streaming television is. Indeed, it is a truly global "post-network" phenomenon, with Netflix reporting more than 75 million subscribers in over 190 countries. Cumulatively, those users streamed in excess of 42.5 billion hours of content on Netflix alone in 2015. In terms of other popular platforms, Hulu has approximately 9 million subscribers, and Amazon Prime reported more than 54 million members, which was an increase of about 14 million users over the previous year [2].

This viewership raises another point that live-tweeting and multi-screening are all evidence of ways that social media and television have hybridized, meaning that we do

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not just "watch TV" anymore. As such, it can be argued [2] that online social television is an immersive lean-forward activity, not "passive" consumption in the traditional sense of broadcast or cable television.

Yet, it is clear that the fields of media research and public opinion do not theorize or empirically examine streaming TV in a meaningful way. In fact, there is almost no work on this burgeoning area at all. Debates remain ongoing about conventional TV and its role to social capital and civic engagement [3], political knowledge and voting[4], and "the mean world" syndrome [5].

When, however, considering the social media logic and personalization of streaming television [6] as well as how "viewing" is no longer solitary but shared across multiple screens [7], suggests the need for greater granularity and precision in understanding a monumental shift in the production, distribution, and uses of television as a medium. As of yet, this phenomenon is severely understudied, particularly in emotional and health contexts.

The work-in-progress reported here is examines which effects can be observed in exploring how streaming television may be situated as an emerging phase in the continuum of media personalization. Indeed, this is specifically because this relatively active and highly individualized form of television use might fundamentally reshape not only the medium, but also the agency ascribed to its users and its uses in a variety of social and cultural arenas.

Thus, this project represents one of the first empirical examinations of streaming television to date. Specifically, this research looks to examine how the increased use of internet-enable television such as Netflix, Hulu, and Amazon Prime relate to a wide range of germane factors including the cultivation of empathy, wellness, and academic performance.

2 METHODS

2.1 Sample

Data for this study as presented here was collected in March and April 2016, and comprised 420 respondents from a large private college in the Northeastern region of the United States. Given the variety of the respondents, there are obvious limitations in generalizing these results onto the general public. There is limited external validity, and, in the future, a wider data pool should be sampled. While there are limitations to perfect generalization [8], [9], this type of sampling is regularly reported using inferential statistics, and waves of continued data collection are ongoing, inclusive of quantitative, qualitative, and computational approaches.

2.2 Concepts and Data - Emotions

This section explores the relationship between streaming television and the social and emotional lives of viewers. By examining findings from survey data, we attempt to better understand the contemporary landscape.

2.2.1 Empathy and Emotional Well-being. Streaming television falls within the larger cultural conversation about technology and the growing "empathy gap," in which individuals are allowed to feel connected to others while not actually meaningfully engaging with others because they are hiding behind their television, tablets, and phones [10].

But what if the empathy gap is actually an empathy bridge? What if new technologies could cultivate rather than impede upon the development of empathy? Streaming television has popularized the practice of binge-watching, where viewers consume several episodes of one specific program in a short period of time. What happens to our empathy when we spend lengthy amounts of concentrated time in crafted, imaginary worlds, viewing television in the way the one would read an epic novel? Within this concept, we explore streaming television's potential to bolster empathy among viewers.

Building upon similar social research in written literature [11], [12], [13] and award-winning dramatic television [14], we aim to understand the relationship between streaming television viewership and empathy.

2.2.2 Life Satisfaction and Fear of Missing Out. Fear of missing out, colloquially known as FOMO, is particularly prevalent among millennials. From the collected data, we tease out television's role as social connector, disconnector, and/or conduit. We discuss the relationship among life satisfaction, happiness, and streaming television consumption. Does streaming television consumption alleviate this fear, or do those who consume more streaming television experience greater FOMO? Ultimately, how does streaming television fit into a larger context of social priorities?

2.2.3 Cultivation and Trust in Others. Since the early days of television, researchers have asserted that those who spend more time "living" in the world of television begin to see social reality through a TV lens [5]. This theory, commonly known as "mean world syndrome" or cultivation, has remained the dominant theory in understanding how television affects us socially, even though television has changed from a talking home appliance to an interactive, personalized viewing platform.

Yet, one key aspect of the analyses applied here is to examine the extent to which cultivation theory still applies in an era of algorithmically determined hyper-personalized content.

2.3 Concepts and Data - Health

For years, researchers have been pronouncing the post-mortem on allegedly unhealthy television-viewing habits. It

has been reported that too much TV means increased risk of heart disease, "lower cognitive function," increased aging, and even increased risk of death—regardless of how much we exercise, how old we are, who our parents are, or how much we sleep [15]. Now, with the emergence of streaming television, researchers are also issuing preliminary warnings that binge-watching (or even the intent to do so) makes us lonelier while making us want to belong even more. It's a dark cycle. TV kills us, kills us faster, makes us dumber, and makes our shortened lives that much more miserable. The current study will crucially examine if this is really the full story in specific areas of inquiry.

2.3.1 Academic Performance. Watching television makes us stupider, right? Wrong – maybe. Even one of the first researchers in this area, W.J. Clark, found that television viewing did not affect academic performance among 1,000 6th and 7th graders in 1951 [16]. Television programs can serve as social surrogates in providing a sense of belonging. Meanwhile, watching or sharing programs with other people, or co-viewing, can contribute to wanting to watch more.

Some research indicates that binge watching is not all bad. For instance, Willens [17] noted the social aspect of binge watching, mentioning her "binge-bonding" sessions with peers, and even suggesting that it has become the new "date night." She also mentions the competitive aspect of binge watching television – that feeling of inferiority when you are "behind" everyone in a popular program, or that satisfying feeling of behind caught up or ahead of her peers in episodes.

2.3.2 Eating Habits, Diet, and Attitudes. A number of people writing in this area consider binge-watching habits an addiction. One stated that he would stay up into the late hours of the evening, choosing "'just one more' hit" over getting enough sleep. Another likened binge viewing to an eating disorder, lying about her whereabouts and always wanting more—even wishing her husband would go on a business trip so she could shamelessly binge on her favorite programs [18]. Other sources mention not only the negative consequences related to the physical inactivity associated with binge watching television, but also its possible effects on mood, including feelings of depression and emptiness, feelings of "withdrawal" at the close of a season or program, and emotional exhaustion after all of the highs and lows of each episode [19].

2.3.3 BMI and Obesity. The most widespread leisurely activity, which involves little metabolic activity [20], in adults is watching television [18]. High percentages of adults in the United Kingdom, 33% of men and 45% of women, fail to achieve recommended physical activity levels [21]. The fourth leading mortality risk factor is a lack of physical activity [22] and so it is important to identify what factors are potentially preventing people from achieving healthy levels of physical activity. Behavior that is sedentary is known to be linked with problematic health outcomes independent of physical activity [23]. Time spent watching television has also been correlated reduced sleep time and obesity [24].

Lifestyle behaviors adults pick up early in their lives could risk cognitive impairment in midlife and could reinforce potential roles for both physical and sedentary activities as modifiable risk factors for prevention [25]. We therefore incorporate this important effects dimension of increased use of streaming television.

3 RESULTS AND DISCUSSION

3.1 Overall Use of Streaming TV

With YouTubeTV, Chromecast, Roku, AppleTV, SmartTVs and many more applications and interfaces to stream television, it is worth considering if users may be streaming too much TV and what those effects are.

In the sample of college students that we surveyed, it was shown that on average, college students spent 3.36 hours on TV (through online streaming), 3.02 hours via smartphone, 2.88 hours on laptop, 2.80 hours on TV (through cable, broadcast or dish), 1.71 hours on desktop computer, and 1.59 hours on tablet. Altogether, these students collectively averaged 15.36 hours of streaming video per day, on average, across screens. Specifically, this included 3.36 hours on TV (through online streaming), 3.02 hours of streaming on smartphones, 2.88 hours on laptop, 2.80 hours on TV (through cable, broadcast or dish), 1.71 hours on desktop computer, and 1.59 hours of streaming per day via tablets. 36.19% binge-watched more than 3 TV series in the last month. On average, students binge watched 2.59 series per month.

While data analyses are ongoing, preliminary results suggest there are some statistically significant differences in certain areas of student emotion and health outcomes. For example, main effects are reported in Fig. 1, where it is clear that risk perceptions increase for both males and females at higher levels of streaming television ($p < .05$ in Factorial Analysis of Variances (ANOVAs).

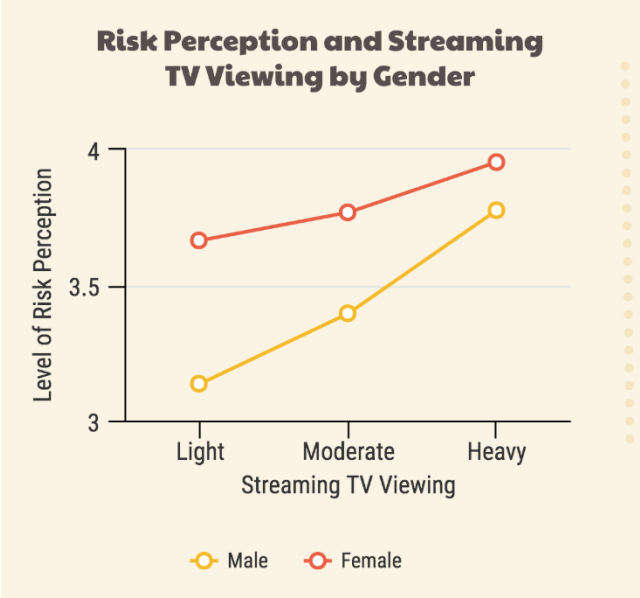

Figure 1: Relationships between Perceptions of Risk, Gender, and Frequency of Streaming Television.

In terms of academic performance, one of our initial analyses indicates that the heavy frequency of streaming television (those in the upper third percentile) actually reported higher GPAs than those with a moderate level of streaming activity. These results are summarized in Fig. 2, which again indicated a statistically significant main effect, but also an interaction effect among males at the heaviest level of streaming television ($p < .05$ in Factorial ANOVAs).

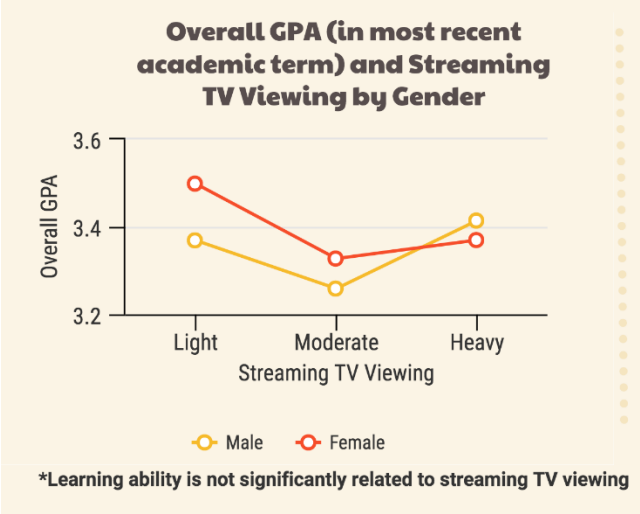

Figure 2: Relationships between Academic Performance, Gender, and Frequency of Streaming Television.

Finally, at least among the initial analyses reported here, it can again be observed that there are interactions with streaming TV frequency, gender, and health attitudes. As shown in Fig. 3, heavy streaming males had the highest levels ($p < .05$ in Factorial ANOVAs) of self-reported health perceptions and other analyses of BMI and stress were non-significant.

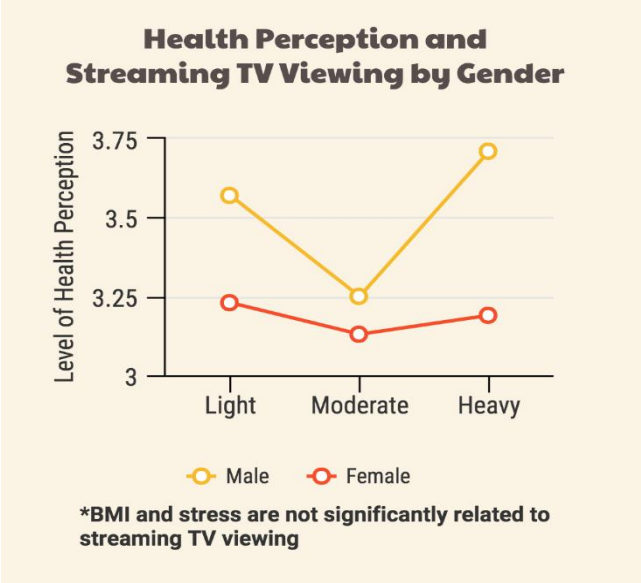

Figure 3: Relationships between Health Perception, Gender, and Frequency of Streaming Television.

4 CONCLUSIONS

These findings suggest that engaging with streaming platforms, which use algorithms to personalize content options to users, is a substantively different activity from simply seeing *"what's on"* broadcast or cable. Rather than merely watching in the more passive model of traditional TV consumption, streaming viewers are using a system that lets them watch whatever they want, whenever and wherever they choose. Users more actively choose what they watch with more control and engagement with their options and others.

Evidence presented here suggests that streaming television can translate into increased agency with often positive (or at least non-negative) effects. This shift, along with the ongoing transition to subscription-based distribution modes, has the potential vastly reshape the field of media effects research but remains relatively unexplored.

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