Psychiatria Danubina, 2021; Vol. 33, Suppl. 11, pp 14-18 *Conference paper*

AUDIO-VISUAL TECHNOLOGY AND ITS IMPACT ON MENTAL WELLBEING

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SUMMARY

Audio-visual technology can have a significant impact on a person's metal wellbeing to the extent that research shows that it can cause structural brain changes. In this paper we explore some of the associations between this technology and mental wellbeing. Audio-visual technology can help in fulfilling the need of human beings for connectedness, but it can be doing this inadequately. It is saturating the brain with information, and can lead to misinformation, misinterpretation, misrepresentation of such information. The impact of the media platforms on the mental wellbeing of their audience relies on an interaction between the platform and the viewer. We explore how this impact can be influenced by the viewer's age or psychiatric conditions. We advocate that if the right balance of utilisation of television and social media platforms is found, they can be a positive and crucial part of society's lifestyle.

Key words: *audio-visual technology – connectedness – information – presentation – interaction – platform – viewer - balance*

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INTRODUCTION

Audio-visual technology has a significant impact on a person's mental wellbeing. This is to the extent that there is evidence that physical changes are observed in the brain structures of those exposed to television from a young age, as their brain seeks to adapt to the stimulatory overload of pervasive television use. Indeed, a study revealed a positive correlation between exposure to television at a young age, and the lowering of verbal IQ, as well as the enlargement of the hypothalamus, in turn correlated with increased aggressive tendencies (Takeuchi et al. 2015). In this paper we will explore some of the associations between Audio-Visual Technology and Mental Wellbeing.

NEED FOR CONNECTEDNESS

Man craves a sense of connectedness. The need to be with others stems from our own evolutionary origins and is evidenced within our very own neuronal make-up (Kringelbach & Berridge 2010). Television, and its successors, internet and streaming platforms, have allowed this desire to be fulfilled relentlessly. One can argue that our innate craving for connectedness has now been satiated, possibly at an inexorable rate, but nevertheless, inadequately.

Television allows one to follow events happening in real-time from across the globe, to replay past events, or to view artistic interpretations of perceived scenarios, as in the case of movie and series productions. Some situations may be real, others fictional. It introduces new people into our living spaces and workplaces. Some may be more constant than others, such as celebrities, news anchors or show hosts, while others may be more fleeting.

All that is broadcast, however, exists virtually, no matter how immersive the televised experience is made to be. All shows are given the same physical dimensions, namely the length and breadth of the screen, whether their content is fictional or real.

Our current age in human technological development is described as information-rich and hyper-connected. The human mind, and the emotional reactions which such a virtual existence evoke, seem to indicate the contrary. The drive to connect and socialise has been met by the prospect of sitting on the couch watching or streaming movies. The mind seeks to connect, rendering us emotionally attuned to the characters on the screen.

The information on TV is not necessarily factual or substantially true; the sense of connectedness with characters on these platforms is indeed fleeting, surreal and inexistent in the physical world. The relationship is thus "parasocial" and forms the basis for so-called "parasocial grief", whereby the viewer connects so deeply with a character from a movie or a TV show that when the show ends, or the character dies, one experiences grief, much as one would feel with the loss of an actual human relationship in the individual's social world (DeGroot & Leith 2018).

Another significant feature of the TV viewing experience involves the apparent lack of agency of the viewer, who is forced to maintain the passive, receiving role, throughout one's immersion into the TV experience (Zhao 2019). This can cause frustration and a sense of alienation to the viewer, even though the immersiveness of the virtual experience may indeed compel one to continue viewing despite this clear deficit in reciprocity. This has also spurred new technologies in promoting interaction between the viewer and the media broadcaster, through the sharing of viewer preferences via social media and content generation through online media platforms.

The act of watching television may in turn spur communication between viewers who are watching TV together. When in groups, the viewers may be introduced to topics which possibly arouse mutual interest, or by allowing the group to live and understand an experience together, thus consolidating their sense of affiliation with each other in situations which may mimic, or actually represent, real-life events (Rasmussen 2020).

THE OBSCURE PERILS OF THE INFORMATION AGE: MISINFORMATION, MISINTERPRETATION, MISREPRESENTATION

With the advent of virtual reality devices and the internet, our access to televised content has multiplied exponentially. Not only are we able to stream content on most of our everyday connectivity devices, but the quality of such content has reached an unprecedented stage. The brain is thus saturated, almost constantly, with images, sounds and videos from devices which are ever-more present in our environment. The provision of affordable high-speed cellular internet has allowed this streaming to occur in almost any physical setting, provided that there is adequate cellular coverage. All in all, humanity has become more connected, but equally more distant from itself.

The content of televised or streamed shows inevitably also bears an impact on the wellbeing of the viewer. Television has undoubtedly been of great value in disseminating news to the masses through the broadcast of news, information on current social and political events, dissemination of factual knowledge, facilitating public education, and the provision of information related to services. It has also paved the way for the widespread dissemination of fake news, particularly if facts or events are inappropriately reported, at times intentionally, for political, financial or social gain.

Studies on how the human brain learns new facts and implements new information in judgement formation and decision-making, have revealed that cognitive heuristics are frequently at play when interpreting the value of new data (Rachlin 2003). Indeed, the value of inbuilt heuristic techniques lies in simplifying decision-making in an information-rich world, in order to expedite the decision-making process. Nevertheless, never in human history has so much information been available to so many people at such a velocity of dissemination and in a mostly identical format for the masses of millions owning a streaming device. The risk of viewers obtaining a distorted and biased view of reality is compounded by the fact that this information is frequently relevant in informing subsequent decisions, spurred on by the lightning-paced exigencies of the 21st century. The premises may be incorrect since they may be based on inbuilt cognitive biases (Shah & Oppenheimer 2008).

The recency bias acts to highlight recent data over information received more distantly or remotely. Recall of such data may also be distorted through unknown biases, including the predominant affect of the viewer while the memory was stored or while it is being accessed (Finucane et al. 2000). The dissemination of information on a variety of topics over a short period of time may also lead to a confounding of information, leading to distorted memory formation and eventually, a bias when this information is recalled. Similarly, an availability bias may also exist when certain channels receive a greater viewership than others, leading to a disproportionate ratio of information from one source, with the risk that any incorrect reporting of events leads to a skewed view of reality. All this is even more relevant when considering that the brain has yet to develop a "toggle switch" through which it may interpret non-fictional and fictional content differently (Gerrig 1993).

This misrepresentation of reality poses considerable risks, particularly in the dissemination of information on sensitive content, such as political news, violence, sexuality and illicit substance use. Given the ubiquity of television and streaming platforms, and the millions of viewers which popular shows attract, these themes may be over-represented or distorted when compared to their actual nature and repercussions in real-life. Indeed, the industry may intentionally broadcast controversial themes to increase the appeal of their product, thus attracting a greater market share and subsequently greater revenue. Without delving into the inexhaustible debate on the role of age-appropriate censorship of certain content, or whether morality should play a role in determining what can or cannot be streamed or televised, it is undoubtedly a concern that, given the widespread dissemination of streaming devices, putting a definitive limit to what may be distributed and the nature of the intended audience is an impossible feat to attain. Any committed individual with enough technological know-how may find the show or televised content he intends to, given enough time and trial.

Whether intentionally or not, and whether through news or artistic productions, the exaggerated impetus given to controversial themes may indeed lead to a general desensitisation of the audience to the situation in question. For example, the televised or streamed dissemination of acts of violence and brutality may in turn lead to a normalisation of violence, which in turn may spur on acts of crime and terrorism (Huesmann 2007).

THE AUDIENCE AS A MEDLEY OF VIEWERS WITH SPECIFIC INTERESTS AND VULNERABILITIES

We have discussed the concept behind the rise of the television and streaming platforms, and the impact of the content which may be disseminated through these

technologies. The impact of these media platforms on the mental wellbeing of their audience relies on an interaction between the platform and the viewer. Thus, a sound understanding of the impact on the viewer necessitates a consideration of the viewer's psychosocial situation and inherent tendencies, including likes, dislikes, aims, dreams and vulnerabilities.

Indeed, a study done by Ribner et al. determined that certain shows may have a greater impact depending on the financial situation of the viewer (Ribner et al. 2017). Age, as can be expected, is also a significant variable, with a younger audience being found to be more impressionable and prone to long-term negative cognitive consequences (Zimmerman 2005).

Similarly, viewers who are struggling with mental illness may accredit disproportionate value to televised content, or misinterpret it in a self-referential manner. This has important repercussions clinically and socially.

Individuals struggling with depression are more prone to extended bouts of screen time, a process which allows them to avoid actively changing their current situation, while also serving as a welcome time-filler, allowing them to idle about and perpetuate their pathological sense of apathy, isolation and self-pity (Madhav et al. 2017). The negative perceptive bias attributed to the cognitive manifestations of depression may in turn lead to a more dismal perception of negative events or circumstances televised or streamed on screen (Raes et al. 2006).

Anxiety also plays a role in the interpretation of streamed or televised content. Cognitive biases such as the tendency to catastrophise, which is common in people with Generalised Anxiety Disorder, may be accentuated by the content being broadcast. Certain news items, particularly those involving ongoing or predicted negative events, may trigger an exaggerated response in the viewer, who may feel compelled to anticipate the predicted negative event by excessive precautionary behaviour (Bodas 2015). A case in point is the panic-buying phenomenon upon announcement of the COVID-19 pandemic. The information was factual, but the sheer pervasiveness of the message, and the immersiveness of the televised content, led to thousands resorting to extreme patterns of behaviour, uncharacteristic of their characterological traits, including hoarding and aggression towards others in commercial outlets, risking injury to themselves and others (Leung et al. 2021).

Similarly, individuals struggling with post-traumatic stress disorder may encounter content which triggers flashbacks and reliving of past traumatic memories: the pervasiveness and popularity of certain content, such as war-related shows, as well as those portraying abuse, may startle and distress survivors and victims of aggression (Jung et al. 2019).

Messages transmitted on television commonly feature in the delusional system of certain psychoses, such that it is quite a common occurrence for psychotic individuals to report being directly addressed by the show host or news anchor on television. Those with a paranoid predisposition, already inclined towards self-referential tendencies, may accredit a different significance to the televised message, inspiring themselves to act on the information received in order to serve a higher purpose, supposedly intended explicitly and personally to them directly.

While the use of television and streaming media holds such risks to those already struggling with mental illness, it also allows the ill and housebound to remain updated on current events, or to share in the recreational experience which has swept the masses. This allows a sense of affiliation and relatedness, particularly when sharing perspectives on recently viewed content, as well as triggering a sense of contentedness which boosts one's mental health, particularly when the content being watched is humorous (Fredrickson et al. 2000).

Such media platforms may also serve an educational role for the young, allowing them to improve their linguistic skills as well as their mathematical skills, particularly if the viewing time occurs in the company of an adult (Early science & engineering 2019). Indeed these premises form the basis for the incalculable number of children shows which seek to actively engage children in the learning process, by direct prompting and frequent repetition of taught concepts. These should not, however, serve as a substitute for actual hands-on experience, and it should never replace actual interaction, hence the emphasis on the so-called "contingent engagement" with an adult while watching TV (Garey 2020).

On a similar note, the correlation between screen time and attention difficulties has been challenged through a recent study by McBee et al. (2021). Given the sheer amount of advertising which accompanies televised or streamed shows, and the marketing campaigns aimed at capturing our attention and subsequently attract revenue, one would have expected that increased screen time would be negatively correlated with attention span, as evidenced by a multitude of previous studies. This saturation of our proximal environment with cues to engage in watching new content may not be daunting to everyone, but increased and early-life screen time has been linked with a greater risk of developing ASD-like symptoms, although whether the link is causal or not remains unknown (Heffler et al. 2020).

STRIKING THE RIGHT BALANCE

In the end, as with every technology, its impact depends on its utilisation by the individual, and society as a whole. It is also determined, to a certain extent, by the rules and regulations imposed on the broadcasting and streaming industry.

Television and streaming media platforms have undoubtedly revolutionised our way of life, in many ways for the better. They have allowed widespread access to information on current events, allowed individuals to spread their message to an audience of unprecedented proportion, and serve as a means of entertainment.

The risks which exist mostly stem from the unrelenting barrage of such content in almost all settings of contemporary human life, owing in part to the intentional efforts made by the industry to bolster the appeal of the content being broadcast. The content may not always be appropriate to the viewer, and at present, technology does not allow accurate verification of the viewer as the intended recipient of the content being broadcast.

When a reasonable balance is struck, such technologies have undoubtedly become a crucial and positive part of our lifestyle. Proper judgement on what, when and how to watch is thus essential: a deviation from this ideal risks alienating viewers from living in the present, being mindful, and ensuring proper prioritisation of tasks and activities.

Acknowledgements: *None.*

Conflict of interest: *None to declare.*

Contribution of individual authors:

All authors made a substantial contribution to the design, and/ or acquisition, and/or analysis and interpretation of data.

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