

# THE INFLUENCE OF EXCESSIVE TV VIEWING ON PSYCHO-EMOTIONAL STATE OF YOUTH AUDIENCE

*Anatolii Vasilchenko*  
*National Taras Shevchenko University of Kyiv,*  
*Master in Neurophysiology, Institute of Biology*

*Gunay Abbasova*  
*High school 6, Chernihiv, Ukraine*  
*The senior pupils of a high school*

*Larisa Derevinskaya*  
*High school 6, Chernihiv, Ukraine*  
*schoolmaster of a high school*

*Darina Kashpur*  
*National Taras Shevchenko University of Kyiv,*  
*Bachelor of science, the Faculty of Psychology*

*Sergii Tukaiev*  
*National Taras Shevchenko University of Kyiv,*  
*PhD in Biology, Institute of Biology*

*Igor Zyma*  
*National Taras Shevchenko University of Kyiv,*  
*PhD in Biology, Institute of Biology*

*Youri Havrylets*  
*National Taras Shevchenko University of Kyiv,*  
*PhD in Journalism, Institute of Journalism*

*Nataliia Pogorilska*  
*National Taras Shevchenko University of Kyiv,*  
*PhD in Psychology, the Faculty of Psychology*

*Mukola Makarchuk*  
*National Taras Shevchenko University of Kyiv,*  
*Doctor of Science, PhD in Biology, Institute of Biology*

*Volodumur Rizun*  
*National Taras Shevchenko University of Kyiv,*  
*Doctor of Science, PhD in Journalism, Institute of Journalism*

**Abstract.** *The paper considers problems of the influence of TV news on psycho-emotional state of youth audience, and the extent to which psychological traits determine their propensity for television watching. We found that excessive TV viewing has been linked to the development of depression among the participants. There was an inverse correlation between the cognitive-affective and somatic symptoms of depression and the reward dependence, mediated by the noradrenergic brain system. The main independent determinants influencing excessive TV viewing were a high level of reward dependence and a lower level of novelty seeking (which reflects the activity of dopaminergic brain system). We argue that the propensity for watching TV and depression development can be predicted by psychological traits, related to the activity of monoaminergic brain systems.*

**Keywords:** *TV, monoaminergic brain systems, depression*

## Introduction

Nowadays modern society increasingly depends on mass media, which is accompanied by negative changes in mental health. The formation of psychological TV dependence is caused by several factors, including the need of information, individual and typological features or age. Excessive TV viewing is also associated with certain personality traits. In particular, people who identify themselves as heavy TVs viewers are more neurotic, have a higher level of introversion and easily fall into boredom (12).

Rubin (17) identifies five main reasons for watching TV: to receive information, to entertain oneself, to join other viewers, a way to spend time and escape from reality, or suppress negative feelings. Such psychological parameters of "social compensation" as shyness, loneliness and low self-esteem positively correlate with aforementioned reasons to watch TV (6). TV-addictive individuals named the following reasons for excessive TV viewing: an escape from negative thoughts, a way to regulate mood or to fill their spare time (12).

A number of studies have linked TV watching, PTSD (post-traumatic stress disorder) and depression. For instance, among the witnesses and victims of Sept. 11, 2001, the frequency of watching TV was positively associated with PTSD and depression (1). Depressive personalities use TV viewing as a coping strategy (9) and try to retrieve information, necessary to solve a problem. In men, the rate of time spent watching news positively correlated with indicators of depression (16). Potts & Sanchez (16) suggest that the need for information can push depressed people to watch TV news more and more. The severity of depression in men positively correlated with the importance of such reasons as "avoiding loneliness" and "avoiding communication with others", and negatively correlated with such motives as "spending time with others" and "spending spare time" in general. In women, the severity of depression positively correlated with "avoiding loneliness" (16).

The psychobiological model of R. Cloninger is used to detect the influence of TV news on the emotional state of youth audience and the extent to which psychological traits determine their propensity for TV watching. The model includes four dimensions of temperament and three dimensions of character. Any addiction is characterized by social maladjustment and is associated with a number of environmental and genetic factors, which allows us to assume a link between certain genetic factors and dependence on the mass media. The Cloninger's Temperament and Character Inventory (TCI) was developed to investigate the neurobiological foundations for personality. It defines such heritable dimensions of temperament as novelty seeking, harm avoidance, reward dependence and persistence. They reflect features of automatic presemantic perceptual processing and unconscious procedural memories to concrete visuospatial structural information and affective valence. The differences between individuals in these fields correlate with their behavior in adolescence and adulthood (2, 3). Lee et al 2007 (10) demonstrated that teenagers with low rates of reward dependence, self-directedness and cooperativeness are more prone to internet addiction than the others. Zuckerman revealed links between reward dependence and the noradrenergic (NA) brain system (20): low levels of reward dependence and high dependence on external approval are associated with deviant behavior and such personality disorder as ludomania (13), drug addiction (5, 8), phobic disorders (19), and bipolar affective disorders types I and II (4). Individuals with low reward dependence and a high activity of noradrenergic brain system can be described as independent, cynical, socially separated, indecisive, insensitive to social signals and tend to spend time in loneliness. The low level of reward dependence was found to be associated with aggressive anti-social behavior (11, 14).

Potts, Dedmo & Halford (15) demonstrated that novelty seeking is a positive prognostic factor for time that people spend watching music videos, daytime talk shows, comedy programs, documentaries and cartoons, and a negative one for the time people spend watching TV news and drama. Novelty seeking directly reflects the activity of dopaminergic brain systems (7, 18, 20) and inversely – the activity of serotonergic brain systems (7). This is an important indicator that excessive TV news viewing can be associated with the activity of dopaminergic system, which is an innate characteristic of individual.

### Purpose of the study

The purpose of research is to reveal the influence of TV news on psycho-emotional state of youth audience, the extent to which psychological traits determine their propensity for TV watching.

### Sample

The survey included 42 persons (women and men).

The aim of the study was to reveal the influence of TV news on psycho-emotional state of youth audience, and the extent to which psychological traits determine their propensity for TV

watching. 42 healthy volunteers aged 14 to 17 years (the senior pupils of a high school in Chernihiv, Ukraine) participated in this study.

### Methods

The participants recorded the time they spend watching TV news and commercials every day during the month in a special diary. We used Cloninger's Temperament and Character Inventory (TCI) and the Tridimensional Personality Questionnaire (TPQ), the Technique of Diagnostics of Ability to Predict by Regush, the School Anxiety Test by Philips, Beck Depression Inventory, the Technique of Diagnostics of a Potential of Communicative Impulsiveness by Losenkov, the Balanced Emotional Empathy Scale by Mehrabian and Epstein, the Method of Diagnostics of the Level of Empathic Abilities by Boyko, the Maddi Hardiness Survey (adapted by Leontyev) and the Emotional Intelligence Self-Evaluation by Hall.

Statistical processing of the obtained data was performed using the Wilcoxon rank criterion, Spearman rank correlation and multiple linear regression analysis (StatSoft STATISTICA 64, version 10.0.1011.0); differences were considered significant at  $P < 0.05$ .

### Results

We found that excessive TV viewing has been linked to the development of depression among the participants. The low rates of TV viewing had a positive impact on the mental state of the individual: the refusal of TV viewing has led to a reduction of the general level of depression ( $T = 26,00$ ,  $p = 0,005$ ), both cognitive-affective ( $T = 104,5$ ,  $p = 0,003$ ) and somatic ( $T = 49,00$ ,  $p = 0,004$ ) symptoms of depression, and the increase of the flexibility of thinking ( $T = 102,00$ ,  $p = 0,021$ ). The correlation analysis demonstrated that the excessive viewing of TV news and commercials is associated with a negative channel of emotional empathy (capability for compassion and complicity;  $r = -, 365$ ;  $p = 0,004$  and  $r = -0,46$ ;  $p = 0,009$ ). We found also a direct correlation between the TV commercials viewing and the ability to predict ( $r = 0,385$ ;  $p = 0,022$ ) and mindfulness ( $r = 0,448$ ;  $p = 0,008$ ).

We found a positive correlation between watching to TV news and managing emotions (by Hall) and dependence (the reward dependence factor of the Cloninger's temperament dimensions) ( $r = 0,447$ ;  $p = 0,001$ ). Excessive TV news watching was inversely related to extravagance in approach to cues of reward ( $b = -0,350$ ;  $p = 0,04$ ) and novelty seeking ( $b = -0,390$ ;  $p = 0,02$ ). It was also positively related to the ability to predict ( $b = 0,401$ ;  $p = 0,02$ ) and mindfulness ( $b = 0,467$ ;  $p = 0,005$ ).

We found an inverse correlation between watching to TV commercials and the emotional channel of empathy ( $r = -0,38$ ;  $p = 0,03$ ), as well as the dependence on external approval ( $b = -0,49$ ;  $p = 0,004$ ). There was a direct correlation of watching to TV commercials with self-transcendence as an idea "I am a part of the world" ( $b = 0,385$ ;  $p = 0,02$ ).

We argue that the propensity for watching TV and development of depression is related to the activity of monoaminergic brain systems. The main independent determinants influencing excessive TV viewing were a high level of reward dependence and a low level of novelty seeking, which reflects the activity of dopaminergic brain system. The TV is not able to satisfy demand in newness among the participants with pronounced novelty seeking. As regards the propensity for watching TV, the participants with a developed ability to predict and developed mindfulness enjoyed watching TV and spent more time doing it.

### Competing interests

The authors declare that they have no competing interests.

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