

## **Impact of TV News on Psycho-Physiological State Depending on Emotional Burnout**

**Dr. Yurii Havrylets, PhD**

Researcher, Department of Social Communications, Institute of Journalism,  
Taras Shevchenko National University of Kyiv

**Dr. Sergii Tukaiev, PhD**

Senior Researcher, Department of Physiology of Brain and Psychophysiology, Educational and  
Scientific Centre "The Institute of Biology and Medicine",  
& presently working at Department of Television and Radio, Institute of Journalism, Taras  
Shevchenko National University of Kyiv

**Dr. Volodymyr Rizun, PhD**

Professor, Department of Social Communications, Institute of Journalism, Taras Shevchenko  
National University of Kyiv

**Dr. Kostiantyn Shenderovskij, PhD**

Associate Professor, Department of Social Communications, Institute of Journalism, Taras  
Shevchenko National University of Kyiv

### **ABSTRACT**

In present study we discuss the impact of exposure to negative TV news, examining psychological effects of negative TV news stories based on the viewers' ability to perceive new information, and influence of emotional burnout as an indicator for that ability. We used the Syndrome of Emotional Burnout Inventory by Boyko and a number of other inventories, aimed to analyze changes in viewers' mood, state anxiety, internal aggression and aggressiveness in the relationships. Overall 53 healthy volunteers (20 male and 33 female high school students), aged 18 to 23 years old, participated in the study. The most significant impact of negative TV news was found in the group of participants suffering from a large information overload and losing emotional sensitivity. Among the participants without any symptoms of burnout or those with fully formed burnout, we recorded a less significant negative impact of negative TV news stories. As such, emotional burnout in the stage of development leads to personal discomfort and aggravation of perceptual reactions in response to negative TV news.

**Keywords:** Media effects, TV news, emotional burnout, mood, anxiety

### **Introduction**

Scenes of outright violence in everyday life have a lasting and extremely strong impact on human psyche, causing a psychological trauma. The violence and crime theme strongly permeates the information space while the most news report about murders, car accidents, natural disasters, etc. The consequences of mass media impact or media effects represent a complex subject for research due to various extents of habituation to negative news, the process also referred to as "desensitization". One of the most spread reactions to the everyday professional stress and stress in interpersonal communication is

the Syndrome of Emotional Burnout. The peculiarity of the burnout as a psychological process lies in the fact that it appears and evolves gradually, unnoticed by a person and its symptoms may occur in a few years' time from the onset of the condition (Schaufeli & Buunk, 2003; Maslach, 2006; Schaufeli, Leiter, & Maslach, 2009; Vodopyanova & Starchenkova, 2009; Tukaiev, Vasheka, & Zyma, 2013). Many triggers have been discovered to initiate burnout, including a number of strategies of interpersonal communication, which makes burnout an extremely widespread phenomenon (Tukaiev, Vasheka, & Dolgova, 2013). It should be noted

non-media studies have shown that negative emotions (anger, sadness) can function as a stressor itself (Graham-Engeland et al, 2018) what matters in our study.

Burnout as such is a mechanism created by a human for psychological protection in form of full or partial shutdown of emotional response to stressful events or processes which cause discomfort (Schaufeli&Buunk, 2003; Maslach, 2006; Schaufeli, Leiter, &Maslach, 2009; Vodopyanova&Starchenkova, 2009; Tukaiev, Vasheka, &Zyma, 2013). A significant level of information overload among young viewers, which was formed before watching emotionally negative and emotionally neutral TV news stories within the experimental framework caused symptoms of emotional burnout in the study. Therefore, research into emotional burnout is particularly crucial and interesting within media impact research, which has not yet been done empirically.

The level of emotional burnout is one of the basic indicators of personal ability to comprehend new information, especially the information spread by mass media. In the mass media studies, we should always consider the phenomenon of decrease of the negative information impact on a viewer's psyche when a viewer frequently encounters such information (Ben-Haim et al., 2014). According to the mood management theory, people under stress use TV to block disturbing thoughts and to avoid depression and unconscious anxiety. Men under stress prefer to watch a video that contains violence while women tend to watch game shows and other entertaining programs (Anderson et al., 1996). Huge amount of information consumed by individuals and society from different sources (advertisements, commercial products, movies, talk shows, etc.) on daily basis and its intense flow may cause negative emotions and mental exhaustion. News occupies a leading position among the rest of TV programs, since it represents pure journalism—message production about facts that occur in society. Despite this leading position, there was no research so far aimed to reveal how the initial emotional and perceiving capacity, i.e. emotional burnout, affects media consumption, namely the ability and readiness to perceive and emotionally react to TV news messages.

Galician demonstrated that in audience's opinion, there are too many bad TV news stories in newscasts, bad news tends to be “depressing” and it poses a threat to public health. Good news is referred to as “funny / happy ending”, “human interest stories” and “personally informative news” (Galician, 1986, 613). Johnson (1996) found that TV focused on negative aspects of life and in average more than a half of news stories depicted violence, suffering, war, and street riots.

Johnston&Davey (1997) infer that viewing negatively valenced TV news enhances both anxious and sad mood and significantly increases the predisposition to catastrophize a personal worry. They also suggest that negatively valenced TV news can exacerbate personal concerns that are not closely relevant to the content of the program. Research in a sample of 3, 003 adults in Trinidad demonstrated that the exposure to depictions of crime in media (fictional media, news media, and reality TV) doesn't result in the formation of fear of crime (Chadee, Smith&Ferguson, 2017).

McNaughton-Cassil, investigating the impact of TV news on anxiety and stress in viewers, demonstrated that exposure to TV news was predictive of trait anxiety at low levels of optimism. However, media exposure didn't evoke depression (McNaughton-Cassil, 2001). Later, he investigated Optimism Gap, an attribution to the fact that people tend to have personal experience only concerning people and things directly around them, but derive their larger world-view from media sources such as television, which normally overemphasize the negative aspects of life (McNaughton-Cassil, 2002).

Another important indicator of the impact of news is mood changes. According to previous research, print news affects self-esteem (Knobloch-Westerwick&Hastall, 2006), exposure to negative news (sad or depressing) activates bad memories (Chang, 2006) and in general news may worsen the mood (Barnhurst&Wartella, 1998). Another study (Cunningham, 1988) looking into the effects of induced mood ranging from the state of rapture, cheerfulness to depression demonstrated that depressed mood contributes to changes of social activities, to escapism from reality and to loneliness. The author assumes that people in a bad mood are

prone to self-indulgence as a type of 'therapy' (Morris&Reilly, 1987). Knobloch-Westerwick&Hastall (2006) examined factors of gender and age in choosing media content and news. They demonstrated that the influence of negative or positive TV-stories on self-esteem is determined by the recipient's gender. Besides, social aspects are more important to women, while men consider success and achievement as of major importance.

Coping with harmful effects of media violence remains a crucial, but rather a meager topic in media effects research. Fairly notable study in this segment by Szabo&Hopkinson (2007) concluded that watching TV news is accompanied by increase of state anxiety. And the best way to overcome noxious effects of TV news violence is an active meditation effort. The authors ascertained that even passive distractive activity (15-min lecture) is not so effective at overcoming harmful media effects (state anxiety, total mood disturbance), as a directed psychological intervention such as meditation (15-min progressive relaxation) is.

Biswas, Riffe, and Zillmann determined mood-specific preferences for bad or good news (Biswas, Riffe, &Zillmann, 1994). Stressed people are more attentive to the negative news relevant to their current condition (Garrett et al, 2018). Johnston and Davey (Johnston&Davey, 1997) showed that a 14-min negatively valenced TV news stories exacerbated sad mood. A thought-provoking study of the impact of TV news on depressed individuals revealed that news contents tend to exacerbate depressive mood, though at the same time TV served viewers as a way to escape from depression (Potts&Sanchez, 1994).

The links between a media-induced personal distress and the donation behavior of TV news viewers were thoroughly investigated by Collins (2012). He argues that a personal distress, induced by TV news, ultimately precipitates an increase in donations to crime victims, although the exact mechanisms of this interaction remain hazy.

Other significant media exposure effects include sensation-seeking and morbid curiosity, which may be evoked by heavy viewing. Bailey et al. (2013) conducted a TV

zapping study that revealed that high sensation-seekers who experienced more intense exposure to TV news everyday demonstrated different patterns of attention and viewing compared to low sensation seekers. "While arousing television news was the most watched by all, high sensation seekers unexpectedly showed less preference for sensational tabloid packaging of arousing content than low sensation seekers." (Bailey et al., 2013, 318).

Despite the variety of media effects, revealed by previous studies, no research was conducted to investigate the influence of psychological background on the perception of information. High spread of burnout (that distorts the capability to process information and react to it) in the modern world poses a significant challenge to investigate the 'pure' influence of various mass media channels. In present study, we focus on emotional burnout as an indicator of initial emotional and perceiving capacity in TV viewers depending on the stage of burnout. According to Girdin et al. (1996), emotional burnout develops through 3 stages:

1. Actualizing of stress reaction, characterized by permanent irritation and anxiety, insomnia, absent-mindedness, decreased heart rate, headaches and difficulties in attention concentration.
  2. Energy saving, characterized by social detachment, cynicism in relationships, touchiness, apathy, reduction of sexual desire, etc.
  3. Exhaustion, characterized by chronic sadness, frustration, depression, gastrointestinal problems, mental and physical fatigue, headache and suicidal behavior.
1. Even though burnout usually progresses over a long time from the first stage to the third, this process may be stopped at any stage.

Boyko gave basic definition of emotional burnout, i.e. "a psychological protection mechanism that is manifested as a full or partial emotions' switch-off in response to psychologically traumatic impact". Boyko considered emotional burnout a dynamic process of stress development that unfolds through 3 phases: anxious tension, resistance, and exhaustion (Vodopyanova&Starchenkova,

2009). These phases largely overlap with the aforementioned stages, formulated by Girdin et al. (1996), e.g., the “actualizing of stress reaction” stage has almost the same attributes as Boyko’s “anxious tension”. Thus we will study emotional burnout based on the joint theoretical framework of this phenomenon.

The goal of the study is to reveal whether and how TV news stories alter psycho-emotional state of the audience depending on the emotional burnout stage in viewers, and whether there are any significant patterns in this interaction. We set up the following hypotheses:

H1: Negative TV news stories evoke stronger anxiety feelings than neutral news.

Anxiety is a state of inner turmoil, often accompanied by a nervous behavior, such as pacing back and forth, somatic complaints and possible hesitation in decision making (Seligman, Walker, & Rosenhan, 2000). There is a possibility that TV news cause short-term anxiety, dangerous for psychological stability of its viewers. This is especially relevant for children (Johnston & Davey, 1997), and as a result, psychologists and psychotherapists have developed several techniques to tackle it. In the current study we wanted to investigate how significant the increase of anxiety due to negative TV news exposure is.

H2: Negative TV news stories provoke stronger mood deterioration than neutral TV stories.

Encountering new negative events (since the majority of usual stories in TV news are negative) imminently leads to mood changes. Posing this hypothesis, we plan to explore the extent to which the mood worsens.

H3: Negative TV news stories evoke aggressive feelings and thoughts, stronger than neutral TV news.

It is a common assumption that negative TV news of any kind, as well as other types of television content, may cause increase in aggressive intentions or self-evaluated dispositions of viewers to act more aggressively in everyday situations (Signorielli, 2005).

## **Method**

### **Participants**

53 healthy volunteers (20 men and 33 women, aged 18 to 21 years old,  $M_{age} = 18.36$ ,  $SD = 0.91$  years), first-third year students were recruited from the Taras Shevchenko National University of Kyiv, Educational and Scientific Centre “Institute of Biology and Medicine” and Faculty of Psychology, participated in this study in return for course credits. The participants were eligible to enroll in the study if they were  $\geq 18$  years old, had no clinical manifestations of mental or cognitive impairment and no documented manifestations of pathologies in sensory analyzers. Exclusion criteria were: the use of psychoactive medication, drug or alcohol addiction and psychiatric or neurological complaints. Written informed consent was obtained from each subject in accordance with the World Medical Association (WMA) declaration of Helsinki – ethical principles for the medical research involving human subjects (Helsinki, Finland, June 1964), the Declaration of Principles on Tolerance (28th session of the General Conference of UNESCO, Paris, November 16, 1995), the Convention for the protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (Oviedo, April 04, 1997). The study was approved by the local ethical committee. All volunteers tested 1-3 months before the exam time (baseline session).

### **Stimuli**

For the current study we used two sets of videos with five emotionally negative and emotionally neutral TV news stories in each set. All TV-stories, randomly chosen from the Internet, had been previously shown on TV. The video clips in both sets were selected based on emotional valence of the information delivered in newscasts.

Selection of the stimuli encompassed several steps in accordance with the principles described earlier (Havrylets et al, 2016). From 100 randomly chosen TV news stories (50 negative and 50 neutral TV messages created and voiced by journalists; comments of a presenter, as well as reporters’ live broadcasts were excluded), 5 coders (3 women and 2 men, aged 18 to 19 years,  $M_{age} = 18.5$ ,  $SD = 0.58$  years), first year students of the Taras

Shevchenko National University of Kyiv, Educational and Scientific Centre "Institute of Biology and Medicine", assessed every news message based on the criteria *negative - positive* and *exciting - relaxing*, using a 10-grade Likert-type scale (-5 - very negative/very relaxing, 0 - neutral, +5 - very positive/very exciting). Intercoder reliability had an acceptable level (Krippendorff's  $\alpha = 0.81$ ). All coders' scores were summed up and averaged, classified in ascending order, and put within one of groups by pleasantness and arousal potential. We divided the whole scale span into three parts: (1) negative TV news (valence values vary from -5 to -1), (2) neutral (valence values vary from -1 to +1), (3) positive (valence values from +1 to +5). 52 TV news videos fell under the category of negative. For this group we calculated mean value of negativity. The final negative group comprised of the 5 videos with scenes of violence or natural disasters that had the nearest scores to the group's mean and were regarded as typical and selected to experimental stimuli. The final neutral video set comprised of 5 news stories with analytical reviews of markets or the ones reporting on specialized events with no direct mention of negative events. Both video sets were of approximately equal duration (around 7 minutes 10 seconds each).

### Questionnaires

The psychodiagnostic questionnaire, filled in by the volunteers, was divided in four parts.

1) State Anxiety Inventory of C. Spielberger and Y. Hanin.

Diagnostic tool indicates the psychological and physiological state at a given moment (on the pre-post basis). The questionnaire was aimed to evaluate anxiety that often happens to be unsubstantiated (as in case of exposure to negative TV news) and leads to negative changes of mood, internal tension and various psychological disorders. The State Anxiety Inventory allowed us to compare the anxiety levels before and after watching the videos in order to determine its impact on the mood of participants (Raigorodsky, 2011).

2) Mood self-assessment.

Mood is a relatively protracted, continuous psychological characteristic that can be understood either as the emotional background (elated, low), or the state of an

individual (boredom, sadness, fear, infatuation, happiness, excitement, etc.). Mood, contrary to feelings, is always object-directed and less intense condition. Being caused by a certain reason, mood manifests itself in the peculiarities of emotional reactions of an individual to any type of influence. The antecedence of mood before emotion is highly contradictory: either mood can be caused by a strong emotion, or an emotion may be enhanced by mood at any moment (Ekman, 2007). Mood was measured before and after watching TV news stories using a 100-point scale.

3) Aggression measuring tests:

TV highlights emotionally negative aspects of our life in general. Violent media viewing provokes violence, increases degree of aggression and develops immunity to it, including problems with attention. Violent media reverse attitude to violence among minors (Saleem&Anderson, 2011) and increases attractiveness of aggressive behavior, especially in youth (Anderson et al., 2003; Johnson, M. O., 1996). According to Anderson et al. (2003), short-time viewing of violent TV news substantially improves aggressive behavior of recipients. As demonstrated by Rubin et al., individuals with the high levels of aggression in comparison to those with the low levels do not appreciate interpersonal contacts, demonstrating negative attitudes towards women; they take pleasure in watching scenes where women are shocked, confused, fall into anger, rage, etc. (Rubin, Haridakis, &Eyal, 2003). In current study two aggression-assessment tests were used to show changes of aggressive emotions in TV news-exposed persons.

- Dayhoff Internal Aggression Inventory (pre- and post-viewing)
- Dayhoff internal aggression inventory is intended to identify the changes in terms of internal aggression before and after watching TV news stories. It characterizes the dynamics of inner aggressive thoughts and feelings (Raigorodsky, 2011).
- Assinger Relationship Aggressiveness Test (post-viewing) ;

Unlike the previous test, the Assinger's inventory indicates the constant (stable) quantitative level of aggressiveness and characterizes external aggressiveness, which

can be found directly in the relationships with surrounding people and environment. This test shows the constant level of aggression of the tested individuals, so its value cannot vary significantly in healthy individuals (Raigorodsky, 2011).

4) The Boyko's "Syndrome of emotional burnout" Inventory, adapted for students by Tukaiev and Vasheka (Vasheka&Tukaiev, 2011; Tukaiev, Vasheka, & Zyma, 2013).

The Boyko's emotional burnout Inventory measures the initial capacity of an individual to perceive and process any kind of information. The emotional burnout index consists of three parts that consider variations of the parameters of psychological and emotional activity: Anxiety Tension, Resistance, and Exhaustion (Vodopiyanova&Starchenkova, 2009). The value of each of these phases is measured on a scale from 0 to 120 points: 0 to 36 points—the phase is not formed, 37 to 60 points—the phase is under development, 61 to 120 points—the phase is formed.

#### **Procedure**

The participant was seated in a comfortable armchair in a soundproof dimly lit recording booth in front of the standard 17" LCD monitor with a distance of 80 cm away from the computer screen.

Video stimuli were presented on the screen monitor (LG FLATRON L1717S, LCD monitor / TFT active matrix, display diagonal 17", maximum native display resolution 1280x1024 at 75 Hz, refresh rate 60 Hz, display brightness 250 cd / m<sup>2</sup>, display contrast ratio 500:1, horizontal refresh rate 83 Hz, vertical refresh rate 75 Hz) using the GOM Player 2.3.14.5270 (Gretech Online Movie Player) for Windows XP/7/8/10 that is the most advanced, familiar and used over the world due to playing numerous multimedia formats. Sounds with an intensity of about 70-85 dB were played from a two nearby multimedia Hi-Fi stereo speakers (Genius SP-G06, frequency range 60 - 20000 Hz) and kept constant for all participants.

All participants were informed about the description of the study, the confidentiality of the information gathered and asked to complete a paper version of the battery of

questionnaires. Before the experiment the participants were instructed to open their eyes when told, watch the videos (with pauses in between), keep the eyes open during the pauses and close the eyes and relax after the last video.

The questionnaires included demographic data (gender, age) and questionnaires (Russian versions) to assess the level of burnout and the physiological state at a given moment. Before and after the experiment the participants filled in the psychodiagnostic questionnaire to assess changes in the physiological and emotional state.

The experiment consisted of two parts for each volunteer: during the first part of the experiment that took place on the first day, every participant was asked to watch a single video set; the next day he or she was presented another video set.

In order to detect the test-retest reliability of the emotional burnout inventory, repeated testing was conducted. It indicated a correlation between the first and the second testing on the significance level of  $p < .01$  (a high level of retest reliability). Taking into account the fact that we measured not the personality traits, but psychological states (which can vary in short periods of time), the second testing using the emotional burnout Inventory was conducted one month after the initial testing. Such reliability check was conducted only for the emotional burnout Inventory, because this is the only tool used in present study to measure not the impact, but the initial pre-viewing emotional condition.

All the tests mentioned above were conducted at the same time every day and the volunteers were given the same instructions.

The processing of the statistical data was performed using IBM Statistical Package for Social Sciences for Windows, version 15. The following tests were used: the Mann-Whitney test, the Wilcoxon rank sum test, the Spearman rank test, and the Kolmogorov-Smirnov test.

#### **Results**

Before watching the negative news stories, the emotional burnout Anxiety Tension phase was formed in 3.77% ( $n = 2$ ) of the participants, and in 15.09% ( $n = 8$ ) of the participants this phase

was under development. The Resistance phase of emotional burnout was formed in 15.09% ( $n = 8$ ) of the participants, and in 54.72% ( $n = 29$ ) of the participants it was under development. Finally, the Exhaustion phase of emotional burnout was formed in 5.66% the participants, ( $n = 3$ ) and it was under development in 30.19% of the participants ( $n = 16$ ). Therefore, the Resistance Phase was the most pronounced within the sample group.

It includes the following symptoms: 1) inadequate selective emotional responding, 2) emotional and moral disorientation, 3) expansion of the emotion saving, 4) reduction of professional duties. According to the results of the correlation analysis, all these symptoms contribute to the formation of this specific phase, but the most significant contribution is brought in by the symptoms 3 ( $r = .755, p < .001$ ) and 4 ( $r = 0.713, p < .001$ ).

The regression analysis indicated the dominant contribution of symptoms 3 and 4 to the formation of the Resistance Phase of emotional burnout (Table 1). I.e., the respondents “begin to economize emotion” (obtrusion of other people’s emotions; desensitization due to TV-content exposure). It turns out that the reduction of professional duties as a result of this emotional economizing leads to the decrease of commitment to work.

**Table 1:**Regression analysis of the Resistance Phase of emotional burnout formation

Another pronounced symptoms of the other phases of emotional burnout included Emotional Deficit and Emotional Detachment of the Exhaustion phase. Since in the vast majority of the participants this phase had not been formed yet, we considered only the figures relevant to the Resistance phase in the context of the TV news impact.

Thus, Resistance phase of emotional burnout was fully formed only in 22.64% ( $n = 12$ ) participants before watching the neutral news and in 15.09% ( $n = 8$ ) participants before watching the negative news. Besides, the Resistance phase under formation was registered in approximately half of the respondents (49.06% ( $n = 26$ ) of those who watched the neutral TV news stories and 54.72% ( $n = 29$ ) of those who watched the negative ones).

It is worth mentioning that male students comprised approximately two thirds of the first group of volunteers (Resistance phase is not formed). However, in the second group (Resistance phase is under development), females made up over 3/4 of the participants. In the third group (Resistance phase is formed), 2/3 of the participants were females.

The results of the emotional burnout testing served as the basis for further analysis of media effects depending on the formation level of Resistance phase.

The TV news stories were evaluated based on the scales *pleasant - unpleasant* and *relaxing - activating*. According to the scale *pleasant - unpleasant*, the neutral TV stories showed positive values (due to Resistance phase: not formed, under development, formed: 1.7, 0.95, 1.48, respectively), the negative TV stories— negative values (due to Resistance phase: - 2.25, -2.97, -2.78, respectively). According to the scale *relaxing - activating*, the negative news items were rather activating (Resistance phase: 1.45, 1.54, 2, respectively), and the neutral TV stories have not demonstrated any significant effect (due to Resistance phase: 0.06, 0.18, 0.35, respectively).

**Changes in State Anxiety:** State anxiety increases while watching both neutral and negative TV news sets and results in +5.6% ( $T = 270.50; Z = 2.62; p < .01$ ) for the neutral and +12.53% ( $T = 298.00; Z = 3.13; p < .002$ ) for the negative TV news sets. Such difference may be attributed to increasing anxiety about the “dangerous world” view that is widely provoked by TV news in the context of cultivation approach (Gerbner, &Signorielli, 1988), that hypothesizes about media’s inclination to form distorted world-view and

induce unsubstantiated fear and anxiety in recipients.

*Figure 1.* Impact of exposure to neutral and negative TV news stories on state anxiety depending on the emotional burnout level (Resistance phase).

The increase in state anxiety is observed almost in all groups, but the only significant increase is observed in the group whose Resistance phase of emotional burnout was under development during the experiment while watching both negative (+24.2%,  $T = 55.00$ ,  $Z = 3.22$ ,  $p < .01$ ) and neutral (7.08%,  $T = 66.00$ ,  $Z = 1.96$ ,  $p < .05$ ) TV news stories, respectively). In the groups with formed and unformed Resistance phase changes in anxiety while watching negative and neutral TV news stories was not detected.

The fully formed Resistance phase of emotional burnout, caused by informational overload at work (or during study), decreases the intensity of emotions and evokes anxiety. And the very process of the formation of Resistance phase is accompanied by emotional obtusion of external emotogenic stimuli and weakening of emotional experience.

**Changes in mood self-assessment.** Changes in mood self-assessment indicate more significant mood deterioration, while watching negative TV news stories (-12.2%;  $T = 199.50$ ,  $Z = 4.11$ ,  $p < .00004$ ) than neutral news (-7.17%;  $T = 187.50$ ,  $Z = 4.46$ ,  $p < .000008$ ). The most extreme mood changes after watching negative news were experienced by those who had an unformed Resistance phase ( $T = 9.50$ ,  $Z = 2.87$ ,  $p < .004128$ ). Slightly weaker mood changes, related to the emotionally negative TV news and neutral TV news, were observed among the participants with Resistance phase under development. Quite a sharp contrast with these data is demonstrated

by the participants with formed resistance. It is important to mention that neutral news lead to mood changes in the participants with fewer manifestations of the Resistance phase of emotional burnout, while the emotionally negative TV news stories lead to more extreme mood changes among the individuals whose levels of burnout are higher (the inverse reaction). This does not allow us to adequately assess both the emotional state and emotogenic content of the offered stimuli in the emotional burnout formation.

*Figure 2.* Impact of exposure to neutral and negative TV news stories on mood self-assessment, registered in the group of students forming stage of Resistance phase of emotional burnout.

**Dayhoff internal aggression inventory.** Exposure to negative and neutral TV news stories caused decrease of internal aggression. The analysis of the indicators of internal aggression after watching negative news stories and based on the level of the Resistance phase demonstrated that aggression decreased in the individuals with unformed burnout (-11.47%,  $T = 9.00$ ;  $Z = 1.89$ ;  $p < .05$ ).

However, the analysis of changes in the whole sample without considering the stage of formation of Resistance phase is not statistically proven ( $T = 273.50$ ,  $Z = 0.68$ ,  $p < .50$  and  $T = 237.00$ ,  $Z = 1.03$ ,  $p < .30$ , respectively). None of the video sets led to a significant increase of internal aggression, at least directly through viewing. Nevertheless, such aggression may occur after some time, under the impact of flashbacks of the unpleasant video watched earlier.

Thus, formation of the Resistance phase of emotional burnout in the participants deprives them an ability to perceive and experience

emotional videos, as well as reduces their emotional experiences.

**Assinger Relationship Aggressiveness Inventory.** Aggression variations, according to the Assinger Relationship Aggressiveness Inventory (ARAI), normally do not differ decisively in healthy people. Our study demonstrates them to fluctuate within 3% in the range from to 37, 75 to 38, 9 that corresponds with non-aggressiveness. In ARAI, the normal rate of aggressiveness can range from 36 to 45 points. None of the participants experienced the level of aggressiveness scoring 45 or more points (which may indicate an excessive level of aggression) after watching each video set.

However, the individuals with the formed emotional burnout were the least prone to aggressiveness towards other people (low levels of aggressiveness based on ARAI).

### Discussion

At the moment many studies focused on the short-term effects of media violence (Arriaga, Zillmann, & Esteves, 2016). Until now it is not clear, whether there are precise mechanisms that may instigate a person to behave violently because of the exposure to media violence. Every media effects study is aimed at different aspects of aggressive response, though the primary focus of the scientific community lies upon this single objective. We do not consider so called "copycat" crimes though (or crimes-copies, i.e., the crimes committed as an outcome of a strong addiction to some pieces of violent media content, usually a movie, and a result of strong identification with the violent character and desire to behave the way s/he does). Given the mental health problems of the persons committing them, they are unrelated to the general public.

This is the first study of the short-term impact of TV news on aggressive feelings conducted so far. Though a lot of previous research was dedicated to the mood and anxiety changes, evoked by TV news exposure (Potts&Sanchez, 1994; Anderson et al., 1996; Johnston&Davey, 1997; Barnhurst&Wartella, 1998; McNaughton-Cassil, 2001; Chang, 2006; Szabo&Hopkinson, 2007; Havrylets et al, 2013; Altheide, 2017; Chadee, Smith&Ferguson, 2017), there has never been an attempt to include the data on the syndrome of emotional burnout into the

analysis of aggressive responses to TV news. Although behavioral manifestations of aggression and aggressiveness influence (Tukaiev, Radchuk, & Vasheka, 2012) or associate with (de Looff et al, 2018) the development of burnout it is very hard to prove that a particular case of aggressive behaviour was caused by the exposure to a particular media content and not by any reminiscence linked to it, or simply by another thought, not connected with the exposure to media altogether. For example, Fikkers et al (2016) showed that media violence increased aggressive behavior for adolescents indirectly depending the peer aggression.

As such, we need to apply another psychodiagnostic tools that will allow us to assess the person's initial emotional condition, as well as his/her perceiving capacity. Both these characteristics can be successfully studied using the Boyko's Emotional Burnout Inventory. TV news stories didn't change interpersonal aggressiveness in all participants. We argue that the increase of internal aggressiveness may relate to empathy towards the emotional screen footage only for the persons with the unformed Resistance phase of emotional burnout. Even though we did not found any vivid outward aggressiveness among the participants, they demonstrated a considerable increase of anxiety, which appears under the impact of the viewed negative TV news.

However, the most important finding of this study is the widest range of emotions due to the exposure to the negative and neutral TV news in the group with the developing Resistance Phase. We argue that such a wide range of psycho-emotional reactions was triggered by the discomfort an individual experiences due to the decrease of personal emotional activity. Further assumption is that such discomfort apparently occurs under the impact of a considerable informational overload. The types of overload-provoking information as well as the emotional burnout among the recipients and the effects of information can be the subject of further research.

Arriaga, Zillmann&Esteves (2016), have highlighted the fact that emotional desensitization can occur as a consequence of the repeated and prolonged exposure to media

violence. Negative media content induces a commensurately negative mood due to massive media exposure (Ben-Haim et al., 2014). Despite this, many questions regarding emotional desensitization remained open. We have observed desensitization or sensitivity decrease, in particular, towards vivid impressive televised messages depending on the formation of emotional burnout, which is in line with the previous research. The development of emotional burnout leads to the "compassion fatigue", and this phenomenon relates to media coverage of social problems (Kinnick, Krugman, & Cameron, 1996). It was demonstrated that exposure to violent TV news videos stimulates insusceptibility to aggression and violence especially among the youth (Saleem & Anderson, 2011).

This study offers new approach to measuring psycho-physiological impact of media using the data on the syndrome of emotional burnout with the help of the Boyko's Emotional Burnout Inventory. The range of reactions was considerably narrower in the groups with the developing and the formed Resistance phase. Such information has a wide potential to reveal the initial capacity of information reception. Although there was some research dedicated to state anxiety as a media effect, this study provides the first attempt to analyze anxious feelings in the context of emotional burnout.

The diagnostic power of the Boyko's Emotional Burnout Inventory applied to study short-term media effects proved its effectiveness, as it does not simply assess the mood or cenesthesia of an individual, but registers the initial ability to apprehend new information. Hence, the use of this inventory (as well as other existing methods to assess emotional burnout) will be of critical importance for further research.

We can conclude, that (1) the negative news can cause increased aggressiveness in relationships with the established emotional burnout, (2) the manifestations of aggressiveness towards others are more likely to happen among people with the emotional burnout under development.

The increase of internal aggressiveness during watching the negative news stories in the

individuals with the Resistance phase under development as well as the decrease of aggressiveness in all the participants while watching neutral news stories could not be properly characterized due to the insufficient data and requires further research.

We confirmed two of three hypotheses: "Negative TV news stories induce anxiety feelings in students" and "Negative TV news stories provoke mood deterioration in students", while the last hypothesis "Negative TV news stories evoke aggressive feelings and thoughts in students" was not confirmed (no significant manifestations of aggressive feelings were detected).

The key problem of media-induced aggression still remains unsolved. Aggressive feelings were not profoundly manifested in our study, as its main accent was made on short-term media impact. However, there is no clear division between long-term and short-term effects of mass media. We can hypothesize that aggressive emotions and inclinations tend to be of cumulative nature and appear rather in a long-term perspective. However, this issue needs to be explored more thoroughly. The conclusions of our research are preliminary in the general scientific context and need to be developed in further experimental research involving different sample audiences. As one of prospective directions of research, it is necessary to characterize the decrease of sensitivity towards emotogenic mass media content in "emotionally burned" and "emotionally non-burned" people. Such study will reveal the links between the feelings of aggression and emotional burnout.

### **Funding**

This research was funded by the Ministry of Education and Science of Ukraine (research project "Psychophysiological mechanisms of perception of the news content of audio-visual Mass Media", 2016-2018, state registration number 16BF045-01).

### **Contributions**

All authors contributed equally to this work, read and approved the final manuscript. Author contributions: S.T., Y.H. and V.R. conceptualized the overall project; S.T. and Y.H. designed research; Y.H. and S.T. conducted studies, collected the data,

performed data analysis; S.T., Y.H., V.R. and K.S. wrote and edited the manuscript.

### Competing interests

The authors declare that they have no competing interests.

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