Does the Exposure to Content of the Humor Videos Reduce Stress of College Students during Pandemic?

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Article History:

Received on 4 September 2023 1st Revision 18 September 2023 2nd Revision 1 November 2023 3rd Revision 7 November 2023 Accepted on 8 November 2023

Abstract

Purpose: The coronavirus disease (COVID-19) pandemic has created a global crisis that has drastically impacted the changing living conditions that cause stress. The general public has begun to use humor as a coping mechanism in dealing with a pandemic. Experiments were carried out with the aim of observing the effect of humorous displays on stress reduction.

Research methodology: Participants are the first-year college students who are selected using the samples in this study is a probability sampling technique, namely a simple random sampling. The research approach was a pre-post experimental design using stress measurement during the pandemic, namely the Covid Stress Scale (CSS). Data were analyzed by performing different tests on CSS scores before and after treatment.

Results: The analysis results showed that there was a difference in the CSS score before and after treatment. Based on these data, it can be concluded that humorous impressions have an effect on reducing stress during a pandemic.

Conclusions: The study concludes that exposure to humorous videos significantly reduces pandemic-related stress, supporting humor as an effective coping strategy that lowers stress hormones and promotes emotional resilience.

Limitations: The experiment was conducted online.

Contribution: This research offers college students an accessible way to reduce stress through humor, especially by watching humorous videos.

Keywords: *Humor, Pandemic, Stress.*

How to Cite: Muna, F., Al Khoiron, M, F., Putri, Y., Nurhuda, A. (2023). Sikap Penerimaan Diri Wanita Infertil di Desa Pandangan Kulon, Kragan, Kabupaten Rembang. *Kajian Psikologi dan Kesehatan Mental*, 1(1), 65-74.

1. Introduction

The COVID-19 pandemic has created a crisis global that drastically impacted changes in living conditions causing psychological changes, not only in medical workers but also in society. Psychological changes are triggered by fear, anxiety, depression, or insecurity (Zhang et al., 2020). Research indicates that people who follow more often news about COVID-19, experience a lot more anxiety (Giacalone, Rocco, & Ruberti, 2020). Individuals who possess elevated trait anxiety levels tend to encounter heightened stress and tension when faced with challenging circumstances. This matter is caused because most of the news published about COVID-19 is depressing and sometimes the news is associated with rumors, that's why anxiety levels increase when a person continues to be constantly exposed to COVID-19 news. Incorrect information and false reports about COVID-19 can exacerbate depressive symptoms in the general population (Wang et al., 2020). One of the people affected is a college student. During the COVID-19 pandemic, college students have significantly increased their reliance on various media social platforms, utilizing them for communication, information dissemination, and virtual learning (Mouratidis & Papagiannakis, 2021; Shahbaznezhad, Dolan, & Rashidirad, 2021); Mouratidis & Papagiannakis, 2021). However, this heightened media social usage has had both positive and negative consequences. It has fostered social connections and enabled educational activities, but according to recent research, during the pandemic COVID-19, there is a relationship between education level, and levels of anxiety and depression (Salari et al., 2020). Some researchers argue that anxiety is greater among young people perhaps because of their access to information through media social is more, which can also cause stress (Qiu, Liu, Li, Li, & Wang, 2020). The proliferation of social media accessibility has been linked to increased stress and anxiety among college students (Drouin, McDaniel, Pater, & Toscos, 2020; Nekliudov et al., 2020). This phenomenon can be attributed to several factors. Firstly, the constant exposure to a vast amount of information and social interactions on social media platforms creates a sense of information overload, leading to cognitive fatigue and heightened stress (Sheng, Yang, Han, & Jou, 2023). Secondly, the pressure to maintain an idealized online persona, coupled with the fear of missing out (FOMO), intensifies social comparison and self-esteem issues, contributing to anxiety (Nawaz, 2023). Lastly, the constant availability of social media fosters a compulsive need to stay connected, disrupting sleep patterns and exacerbating stress (Wong et al., 2020)

Stress refers to the experience of an incident considered to be harmful to someone's physical or psychological. Stress is defined by Lazarus & Folkman as the gap felt by the individual between the demands of physical or psychological with biological resources, psychological, or the social system. Based on individual perceptions of stress experienced, Selve divides stress into two categories, namely distress and eustress. Distress refers to stress that is destructive or not pleasant. The feelings that an individual has experiencing this stress, including anxiety, fear, worried, or restless. In contrary to distress, eustress refers to stress that is pleasurable in nature and is a satisfying experience. According to Hanson riri this stress categories could have a positive effect on the individual's life, as it can improve mental awareness, alertness, cognition, individual performance, and increase motivation to create something. Stages of physiological reactions to stressor is described by Selve in the term General Adaptation Syndrome (GAS) which consists of: alarm reaction, stage of resistance, and stage of exhaustion. In the alarm stage of the sympathetic nervous reaction of the nervous system autonomous contract and cause multiple responses physiological, such as an increase in metabolic rate, pulse increased heart, dilated pupils, high pressure blood, increased respiratory rate, muscle tension, secretions endorphins and ACTH, and releases more sugar from the heart. This reaction is also called as a fight-or-flight reaction. On the stage of resistance characterized by arousal that is still high, body still continue to defend against and adapt to stressors. At this stage, the physiological response begins to decline, however it is still higher than normal conditions. At the last stage or stage of exhaustion, the response physiology is still ongoing which can be debilitating the immune system and depletes the body of energy. If stressor keeps appearing, it will cause the emergence of disease and physiological damage and can cause death.

Actions that individuals take to overcome negative effects on physiological and psychological that arises because of stress is called coping (Sari, 2021). One of the techniques used to prevent or relieve stress is humor (Husniabdillah, 2007). Based on Kamus Besar Bahasa Indonesia (KBBI), humor is defined as something fun. Wooten (1996) states that humor is the perceptual qualities that allow us to feel joy (joy, pleasure) even when we face difficulties. Another person defines humor as the capacity to accept or express the amusing (funny) aspects of a situation and manifested with laughter. Meanwhile, according to Immanuel Kant through its incongruity theory, something is called humor if these things (for example jokes, gestures, statement) does not live up to our normal expectations and caused momentary cognitive struggle for resolved perceived incongruity (felt not appropriate/ appropriate). Fritz, Russek, and Dillon (2017) says that humor is a social instrument that provides an effective way to reduce psychological distress. Dixon (R. A. Martin & Ford, 2018) also argued that humor is a significant factor in helping someone deal with stress. This can occur because when given exposure to humor or funny things, individuals will generate positive emotions in the form of laughter. In accordance with previous research, mentions that humor and laughter can quickly eliminate potential sources of pain and stress. When this pandemic occurred, the general public started using humor as a coping mechanism in facing a pandemic. This is indicated by the increasing of humor-related pandemic content in Kenya (Oduor & Kodak, 2020). Based on this explanation, researchers are interested in finding out the effect of giving humorous impressions against stress during a pandemic. Therefore, the research question proposed by the researcher is "Does the exposure to the content of humor videos reduce the stress of college students during the pandemic? The hypothesis of this research is that exposure to the content of humorous videos reduces the stress of college students during the pandemic.

2. Literature Review

The impact of exposure to COVID-19-related content on social media can induce stress, causing distress (negative stress). According to C. G. Martin, Kim, and Freyd (2018), distress is categorized as a negative emotion. When emotional stimuli occur, the amygdala processes information about incoming stimuli. This information is then forwarded to the hypothalamus, which subsequently connects with the adrenal gland or the Hypothalamic-Pituitary-Adrenocortical (HPA) system. The HPA system regulates the production or reduction of cortisol (the stress hormone) in the blood. If the stimuli evoke negative emotions, the HPA system will produce or increase cortisol levels in the blood. Humor is one technique used to prevent and alleviate stress (Husniabdillah, 2007). Consistent with Skinner's statement (in Sarafino, 2006) indicating that one method individuals can use to cope with stress is humor. Humorous or funny content can generate positive emotions manifested through laughter (Szameitat, Szameitat, & Wildgruber, 2022). Berk and Tan (Wooten, 1996) conducted research in California and discovered the benefits of laughter on immunity. The study detected a decrease in stress hormones (hormones released by the body during stressful situations) such as cortisol and adrenaline after participants watched a funny movie. Humor and laughter can swiftly eliminate potential sources of pain and stress.

Humor is recognized as a potent tool in stress management, renowned for its ability to mitigate stress impact and foster positive emotional responses amidst adversity. Its significance lies in its overall positive impact, serving as a remedy for stress, anxiety, and depression, while simultaneously fostering feelings of optimism, nurturing social connections, and contributing to an individual's overall sense of fulfillment in life (Heintz et al., 2020). Furthermore, the enduring effect of humor on maintaining positive emotional states is noteworthy (Canestrari et al., 2021; Carr et al., 2021; Jiang, Lu, Jiang, & Jia, 2020; Schneider, Voracek, & Tran, 2018; Stiwi & Rosendahl, 2022). Notably, research indicates a correlation between humor and reduced stress associated with the challenges posed by COVID-19 (Hanfstingl et al., 2023; Simione, Gnagnarella, Spina, & Bersani, 2021). For instance, previous studies have demonstrated that engaging with humorous content, such as watching comedic videos, immediately alleviates stress and contributes to an improvement in well-being (Stieger, Schmid, Altenburger, & Lewetz, 2023). Humorous videos may also serve to reduce stress among employees (Janicke-Bowles, Dale, & Hendry, 2018) and enhance the well-being of individuals subjected to interpersonal aggression (Cheng, Amarnani, Le, & Restubog, 2019). Drawing from the provided explanation, this study hypothesizes that exposing students to humorous content can significantly reduce stress during the pandemic.

3. Materials and Methods

3.1 Design

The research design used in this experiment was a one-group pretest-posttest, that is a research design in which conditions treatment was interspersed between the pre-test and the post-test of dependent variable (Daulay, Harahap, & Sinaga, 2022). This research involves a given group of participants given humorous content shows in the form of compilation of funny videos as treatment. Participants were initially given a stress stimulus in the form of impressions about news about the death rate who died from COVID-19. Then participants will work on the Covid Stress Scale as preliminary data to determine the level of their stress before being given treatment. Once given humorous shows, participants returned to work on Covid Stress Scale to find out their stress level after being given treatment. The treatment in the form of the humorous impressions are expected to influence participants to lower stress levels that the participants have. The reason for this research using a one-group pretest-posttest design because the expected results are comparisons participants' stress levels between before and after given treatment. Researchers also want to be focus to the internal differences by not holding control group as comparison.

3.2 Participants

The population of this research is the first year college students. Characteristics of the sample is to have a device connected to the internet. The sampling technique in this study is probability sampling technique which is a simple random sampling. There were 64 subjects who became the research samples. The participants in this study consisted of 87.50% women and 12.50% men with an age range of 5 students (7.8%) are 17 years old, 51 students (79.7%) are 18 years old, and 8 students (12.5%) are 19 years old.

3.3 Variable

The independent variable used in this research is the provision of humorous content that will be provided to the college students. According to Kamus Besar Bahasa Indonesia, the provision of humorous content is something that is displayed and contains elements of fun and humor. The provision of humorous content in this research is humor stimulus in the form of video media. The form of comedy used in this research is a compilation of funny videos, which is a collection of several funny video clips. The dependent variable used in this research is the stress level among college students. Stress is defined by Lazarus & Folkman as the gap perceived by an individual between physical or psychological demands and the biological, psychological, or social resources they possess. Stress will be assessed using a stress scale developed by the researcher based on the biological and psychological aspects of stress as proposed by Taylor et al. (2020), namely the Covid Stress Scale. The higher the total score obtained by subjects on the scale, the higher their level of stress, and conversely, the lower the total score obtained by subjects on the scale, the lower their level of stress.

3.4 Measurement

The primary measurement tool employed in this study is the Covid Stress Scale, developed by Taylor et al. (2020), which consists of 36 items. This instrument is used to assess stress levels associated with the COVID-19 pandemic in participants before and after exposure to humorous video content as a treatment. The scale encompasses five domains, including fear of COVID-19 dangers and sources of contamination, COVID-19-related xenophobia, fear of personal social and economic consequences of COVID-19, COVID-19-related checking behaviors, and COVID-19-related traumatic stress symptoms. The instrument employs a Likert scale with five response options (1 = "Strongly Disagree" to 5 = "Strongly Agree"). Example items included "I am worried about getting infected by the virus" and "I am concerned that social distancing may not be enough to keep me safe from the virus". For this research, measuring momentary stress, only 24 of the 36 items were used, covering three domains. The Cronbach's Alpha value for this measurement tool was 0.92, indicating high reliability. Confirmatory factor analysis (CFA) demonstrated, yielding good fit indices with RMSEA = 0.050, SRMR = 0.042, and CFI = 0.93, as Taylor et al. (2020) study.

3.5 Analysis Technique

The measurement scale used in this study is an ordinal scale, by calculating the difference in the Covid Stress Scale score before and after treatment in the form of a compilation of funny/humorous videos. Pre-test and post-test data that have been obtained are processed using SPSS version 22 uses the one-party Wilcoxon test. Criteria Wilcoxon test, the data can be said to have good results significantly different if the p-value $<\alpha$, with $\alpha=0.05$. The test criteria aimed at by the researcher were there significant differences between the pre-test and post-test results. test or p-value $<\alpha$, with $\alpha=0.05$ on the statistical test inferential.

3.6 Procedure

After the participant is willing to follow the research, the participant was informed about schedule and place of research implementation, namely at Zoom platform. The main measuring instrument used on this research is the Covid Stress Scale from Taylor and colleagues (Taylor et al., 2020). This measuring instrument is used to measure the participants' stress related to the COVID-19 pandemic before and after given treatment in the form of humorous video views. Taylor and colleagues compiled this measuring tool based on 5 domains covering fear about the dangers of COVID-19 and fear about the source of the contamination related to COVID-19, COVID-19-xenophobia (i.e., fear that strangers are the source of COVID-19), fear about the personal social and economic consequences of COVID-19

(e.g., fear of breaking the chain supply, fear of looting or rioting), testing related to COVID-19 (e.g., checking news media or social media, seek assurance from friends or medical professionals), and symptoms of traumatic stress related to COVID-19 (e.g., disturbing thoughts or unwanted nightmares associated with COVID-19). This measuring tool is in the form of a questionnaire contains a statement with 5 scale answer choices likert (1 = "Very Not Suitable", 2 = "Not Suitable", 3 = "Neutral", 4 = "Appropriate", 5 = "Very Appropriate"). However, in this study the measurement of stress was carried out instantaneously, only 24 out of 36 items were used with 3 a domain that includes fear about danger COVID-19 and fears about the source of the contamination related to COVID-19, COVID-19-xenophobia (i.e. fear that strangers are the source of COVID-19, and fear about the social and economic consequences COVID-19 personality (for example, fear of distraction on the supply chain, looting fear or unrest). The type of humor that is used as a treatment of the participant is a stimulus in the humor form of video media. The comedy form used in this study is a compilation of funny videos, namely a collection of several funny video clips.

4. Results and Discussion

Based on table 1, it is known that the Covid Stress Scale pre-test score of all participants had descriptive statistics (R = 64, Me = 82, and P25 = 72.25, P75 = 91) the Covid Stress Scale post-test score of all participants had descriptive statistics (R = 68, Me = 77.5, and P25 = 70, P75 = 89.75).

Table 1. Descriptive Statistics

		Range	Median	Percentiles	
				25	75
Pre-test		64	82	72.25	91
Post-test		68	77.5	70	89.75

Non-parametric difference tests performed in this study is the Wilcoxon test with p-value results <0.05, then H₀ is rejected (Z = -3.962, p-value = 0.00). Based on these results, it was found that there was decreased stress during the pandemic in college students after giving humor impressions. The results of this study indicate that giving humor has an effect on decreased stress during a pandemic. This result can be proven by the results of the p-value < alpha, with an alpha of 0.05. Humor's profound impact on the release of neurochemicals in the brain, particularly endorphins, known as "feel-good" hormones, plays a crucial role in stress reduction (Djajasasmita, Astutie, Kusuma, & Hidayatullah, 2021). Engaging with humorous content prompts the brain to generate endorphins, fostering sensations of pleasure and relaxation. Laughter serves as a trigger for endorphin production within the body, resulting in the relief of pain, decreased stress hormone levels, and bolstered immunity, ultimately diminishing an individual's experience of stress (Cancelas-Ouviña, 2021). Endorphins, originating from the pituitary gland and the hypothalamus, are naturally released during bouts of laughter, subsequently making their way into the bloodstream and the brain through hypothalamic neurons. This hormone is instrumental in generating feelings of pleasure and an elevated mood. These endorphins effectively counteract stress hormones like cortisol, mitigating the physiological repercussions of stress (Nwokorie et al., 2022); (Savage, Lujan, Thipparthi, & DiCarlo, 2017). As a result, the simple act of laughing or even wearing a smile while viewing amusing videos can induce a sense of well-being and alleviate stress.

Corroborating these findings, research by Berk and Tan (cited in Wooten, 1996) observed reduced stress hormone levels, such as cortisol and adrenaline, in participants following exposure to humorous or comedic content. Positive emotional stimulation arising from humor engages the amygdala, which subsequently communicates with the hypothalamus. The hypothalamus, in turn, collaborates with the pituitary and adrenal glands, collectively known as the HPA system, to regulate the reduction of cortisol, the stress hormone, in the bloodstream. The act of viewing humorous video clips has been found to play a significant role in alleviating psychological stress while concurrently lowering cortisol levels, all without any discernible signs of physiological stress (Froehlich et al., 2021). This intriguing phenomenon has garnered attention in the realm of psychological research and holds implications for stress management. Studies exploring the impact of humorous video clips on psychological stress have

consistently shown promising results (Stieger et al., 2023). The act of watching such videos induces feelings of amusement, often accompanied by laughter and a sense of enjoyment.

Moreover, the absence of physiological stress indicators in individuals who engage with humorous video clips further underscores the unique nature of humor as a stress-management tool. Traditional stress responses typically involve increased heart rate, elevated blood pressure, and heightened alertness (Aimie-Salleh, Malarvili, & Whittaker, 2019). However, individuals exposed to humor often exhibit a contrasting physiological state characterized by relaxation and reduced arousal levels (Cancelas-Ouviña, 2021). This physiological calmness, in conjunction with reduced cortisol levels, suggests that humor acts as a potent psychological buffer against the adverse effects of stress. In this research, participants were given stress stimulus in the form of news broadcasts doctor's death due to COVID-19. Once given humorous impressions, there was a decrease in the Covid score results in the Stress Scale of participants. According to (Savage et al., 2017), potential sources of stress can be quickly dispelled with laughter and humor. Humor can be thought of as a multifaceted psychological mechanism that often acts as a form of escapism, particularly when individuals find themselves grappling with stress-inducing challenges (Simione et al., 2021). Within this framework, humor serves as a valuable psychological buffer, enabling individuals to temporarily disengage from the immediate stressors they face.

One of the techniques psychologically simple and can reduce stress is to distract yourself from a potential source of stress that would be annoying or trouble ourselves. When a participant is given a stressor, and then diverts his attention to a humorous display, participants can change their focus and not be distracted by any stress stimulus given at the start of the study. This is according to (Galluch, Grover, & Thatcher, 2015), humor can distract and interrupt the mind when it becomes a source of stress and the focus on stress will also divide into humor. Humor is a method that can be used as a distraction when stressed. This coping strategy allows individuals to maintain a more positive outlook by creating a mental and emotional space where they can momentarily set aside the stress-inducing issues at hand. By infusing situations with humor, individuals can create a cognitive distance from the sources of their stress. This distance, in turn, affords them a reprieve from the emotional intensity of these challenges, providing room for levity and a shift in perspective (Iszatt-White & Lenney, 2020).

Humor, often defined as the ability to momentarily set aside seriousness and evoke lightness or laughter, is a recognized and valuable technique for emotion regulation (Byrne & Kangas, 2022). This becomes especially pertinent when we consider the experiences of college students in the COVID-19 pandemic who frequently encounter stressful situations, which can trigger intense and potentially detrimental emotional responses. However, humor steps forward as an adaptive coping mechanism, offering individuals a means to navigate these challenges with resilience and a more optimistic perspective. The efficacy of humor as a coping strategy is grounded in its capacity to alleviate perceived distress, offering a valuable emotional release valve in times of heightened stress. By infusing situations with humor, individuals can effectively defuse tension and lighten the emotional load, resulting in a subjective sense of relief. Humor as a coping can effectively mitigate the negative impacts of life stressors. When individuals incorporate humor into their coping repertoire, they introduce a powerful psychological mechanism for reframing adversity. Humor allows them to view challenges through a different lens, transforming potentially distressing situations into opportunities for growth and learning. This cognitive shift equips individuals with a more adaptive mindset, enabling them to navigate through life's stressors with greater ease and composure.

The fundamental aspect of humor's effectiveness in handling stress revolves around its exceptional capacity to function as a cognitive restructuring instrument. When college students find themselves confronted with stress-inducing stimuli, their initial emotional responses may veer towards overwhelm and distress. In such moments, humor steps in to offer a cognitive shift—a way to reframe and reinterpret these stressors in a manner that renders them less menacing and more positively charged (Lenggogeni, Ashton, & Scott, 2022). This reframing process is pivotal in reducing the emotional intensity of the stress response, allowing individuals to regain emotional equilibrium and fostering a more balanced state of mind (Li, Fan, Wang, Wang, & Huang, 2022). The transformation brought about

by humor's cognitive reframing is akin to viewing a challenging situation through a new lens. It enables individuals to extract humor and levity from what might otherwise be seen as purely distressing circumstances. This shift not only reduces the immediate emotional burden but also empowers individuals to approach stressors with a renewed sense of agency and control.

Another study has provided valuable insights about the effectiveness of humor when it comes to reducing psychological distress, shedding light on the intricate mechanisms at play. Approaching this topic from both cognitive and physiological perspectives unveils the multifaceted nature of humor's impact (León-Pérez, Cantero-Sánchez, Fernández-Canseco, & León-Rubio, 2021). From a cognitive standpoint, the ability to generate and employ humor as an adaptive mechanism in specific situations implies the development of intricate perceptual and cognitive frameworks that significantly influence human behavior. This suggests that humor can serve as a cognitive tool, allowing individuals to reframe their perceptions and interpretations of stress-inducing situations. This aligns seamlessly with the principles of cognitive-behavioral therapy, a widely acclaimed approach known for its effectiveness in enhancing stress management strategies. Furthermore, it's important to recognize the physiological manifestations of humor's impact. Humor often leads to genuine, hearty laughter and spontaneous, uncoordinated movements, resulting in the release of pent-up tension and the alleviation of (van der Wal & Kok, 2019). This laughter, a hallmark of humor, signifies a state of relaxation and contentment. Remarkably, the techniques specifically designed to induce relaxation and facilitate stress management have accumulated substantial empirical support, further underscoring their efficacy (Kröll, Doebler, & Nüesch, 2017). The efficacy of these humorous responses in alleviating tension is particularly pronounced in situations where individuals find themselves grappling with elevated stress levels. These findings further substantiate prior research that underscores the utility of amusing videos as a means to highlight the potential of humor to serve as a potent tool for mitigating individual stress levels (Pabel & Pearce, 2015).

5. Conclusion

5.1. Conclusion

The COVID-19 pandemic has created a crisis global which drastically impacted changes in living conditions that cause stress. People began to use humor as a coping mechanism in facing a pandemic. This research was conducted with the aim of seeing the effect of humor impressions on the reduction of the current stress pandemic. The results of this study reported that there is a significant difference in scores between scores Covid Stress Scale before and after exposure to humor videos. This means providing humorous impressions significant effect on reducing stress at the moment pandemic. The results of this study are consistent with the research conducted by Berk and Tan (Wooten, 1996) who found that there was a reduction in stress after participants watch humorous shows. This matters because watching humorous videos results in generating endorphin hormones and a reduction in stress hormones, including cortisol and adrenaline. Additionally, humor as a coping strategy allows individuals to navigate these challenges with resilience and a more optimistic perspective, effectively distracting themselves from potential stressors that might otherwise be vexing or troubling.

5.2. Suggestion

Based on the findings of this research, it is evident that exposing individuals to humorous video content contributes to reducing stress levels. This insight could be beneficial for students experiencing stress, offering them a readily accessible method for alleviation by engaging in humor, such as watching humorous videos. Timely management of negative stress is crucial as its unaddressed impacts can escalate to more severe consequences.

Limitation

The limitations of this study are rooted in its online nature, suggesting that conducting the research in person would be advisable. This would enable the control of the experimental environment to account for extraneous variables.

Acknowledgment

We extend our heartfelt gratitude to all the participants for their invaluable contribution to this research.

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