The Influence of Type of Display (Visual and Audio) and Gender Differences on Positive Mood in Early Adolescents

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Abstract: This study aimed to examine the effect of media exposure and gender on positive mood among early adolescents. A true experimental design with a 2x2 factorial model was employed, involving two independent variables: type of media exposure (visual and audio) and gender (male and female). Participants were early adolescents aged 10–19 years, randomly assigned to ensure balanced distribution across groups. The Positive and Negative Affect Schedule (PANAS), focusing only on the positive dimension, was administered as a pre-test and post-test to measure changes in positive mood. Data were analyzed using two-way Analysis of Variance (ANOVA). The results revealed no significant main effects of media exposure type or gender on positive mood, nor a significant interaction effect between the two variables. These findings suggest that positive mood among early adolescents is not influenced by media type or gender, but may be shaped by other factors such as initial emotional state, individual media preferences, or social context

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1 INTRODUCTION

According to the World Health Organization (WHO), adolescence is a period of development between childhood and adulthood; it occurs between the ages of 10 and 19. According to Hurlock (1997), the most vulnerable adolescents are those in early adolescence because early adolescence is a transitional period, where changes occur physically, psychologically, and socially. This transitional period can potentially lead to a crisis, one of which is characterized by fluctuating mood swings. Basic Health Research states that the prevalence of Indonesians aged over 15 experiencing emotional mental disorders is 6.0% (Ministry of Health, 2013). Emotional mental disorders in adolescents are disorders in the form of feelings of depression, anxiety, and stress. The prevalence of emotional mental disorders in the population aged over 15 in the Special Region of Yogyakarta is 8.1%, making this figure one of the highest incidences of emotional disorders in Indonesia after the provinces of Central Sulawesi, South Sulawesi, and West Java.

Within psychology, a branch of science that studies human behavior, emotion is a crucial aspect. Emotions are considered markers or signs of human behavior. Three main terms are used to understand emotions: affect, emotion, and mood (Russel, 2003; Fiske & Taylor, 2008). Affect refers to a broad and general term that encompasses emotion, mood, and attitude. Emotion and mood are two distinct concepts

in psychology. Emotion refers to feelings that tend to be unstable and temporary, while mood refers to feelings that are more stable and can arise without any specific trigger. Despite differences in the time period and object of emotion, both remain linked to the same conceptual framework, namely affect. Mood has a significant impact on human behavior because it is persistent and independent of a specific emotional object (Fiske & Taylor, 2008).

Mood differences between men and women have been a subject of intense research in psychology and the social sciences. Several studies have shown significant differences in how the two sexes experience and manage their moods. In terms of negative mood regulation, research has found that male college students are better at managing negative moods than female college students. This suggests differences in the coping strategies used by both genders when dealing with negative emotions (Khoirina, 2024). Women are also reported to be more easily influenced by events around them, allowing them to experience rapid mood swings. This contrasts with men, who may be more stable in the face of environmental changes (Fatimah, 2017). Another study on impulsive behavior in the context of shopping showed that men are more likely to be influenced by impulse purchases without considering the consequences, while women focus more on managing positive emotions and cognitive processes before making a purchase. This reflects differences in how each gender responds to and manages their moods in social situations (Tooy, 2015).

However, in this research, we will focus on the positive mood aspect. (Lane & Terry, 2000) stated that positive mood includes enthusiasm (characterized by energy, joy, and alertness) and happiness (characterized by feelings of satisfaction and low arousal). To measure a positive mood, we can use the Positive and Negative Affect Schedule (PANAS) (Watson & Clark, 1999). The PANAS (Positive and Negative Affect Schedule) scale is a psychological instrument specifically designed to quantitatively measure two main dimensions of human emotion: positive affect and negative affect. Positive affect refers to pleasant feelings such as joy, happiness, enthusiasm, and enthusiasm. Meanwhile, negative affect includes unpleasant feelings such as sadness, anger, anxiety, and frustration.

Visual displays are displays that have the main elements in the form of lines, shapes, colors, and textures in their presentation (Khoirunnisa, et al., 2019). Visual displays are displays that can only be seen using the sense of sight. In conclusion, visual displays are displays that have the main elements in the form of lines, shapes, colors, textures in their presentation and only use the sense of sight. Dina Indriani (Khoirunnisa, et al., 2019) explains that audio displays are displays whose message is captured by the sense of hearing, because they only produce sound without any images or other concrete messages. Sadiman (Khoirunnisa, et al., 2019) says that audio displays are displays to convey messages that will be conveyed in the form of auditory symbols, both verbal (into words or spoken language) and non-verbal. Nana Sudjana and Ahmad Rivai (Sari, 2017) state that audio displays contain messages in auditory form (vocal cords or sound plates), which can stimulate children's thoughts, feelings, attention, and will, resulting in a learning process. In conclusion, audio displays are displays whose messages are captured through the sense of hearing, and are

conveyed in the form of auditory symbols, both verbally and nonverbally.

Research conducted by (Khoirunnisa, et al., 2019) found no significant effect between the presentation of displays (visual and audio) on mood, no significant effect of gender on mood, no significant difference between the effect of presentation of displays (audio and visual) and gender. The results of research (Campillo, et al., 2018) according to Lutz et al MacLean stated that people who participated in the experiment would stay awake longer to two audio and visual media. However, following the intervention, negative emotions decreased more in subjects with audio treatment than in subjects with visual treatment. The results also showed that the level of full concentration and focus conveyed verbally was more effective through audio than visual treatment.

This study aims to uncover the influence of the type of broadcast (visual and audio) and gender differences on increasing positive mood in adolescents. In other words, this study aims to determine whether watching certain videos or listening to audio can make adolescents feel happier and more content, and whether there are differences in responses between male and female adolescents to these types of broadcasts. The results of this study are expected to contribute to various fields, such as education, mental health, and the entertainment industry. By understanding the factors that influence positive mood in adolescents, it is hoped that more effective strategies can be developed to improve adolescent emotional well-being.

2 METHOD

Research Design

The research method used in this study was a true experiment with a 2x2 factorial design. This design involved two independent variables: the type of broadcast (visual and audio) and gender (male and female). This study involved two experimental groups, where each group was given a different treatment in the form of visual and audio broadcasts. Participants in this study were early adolescents aged 10-19 years who were randomly selected to ensure a balanced distribution of participants in each group. Before the treatment was given, participants underwent a pre-test to measure positive mood using the Positive and Negative Affect Schedule (PANAS) instrument, which focuses only on the positive dimension. After the treatment was completed, participants underwent a post-test to evaluate changes in positive mood. The data obtained will be analyzed to identify the effect of the type of broadcast and gender on increasing positive mood. This design is expected to provide valid and reliable results in revealing the relationship between the variables studied.

Participants

The research subjects or participants used in this study were 7th grade students of Al Falah Middle School located in the Tropodo area with a total of 28 participants. The researchers chose early adolescent subjects because during this period, puberty occurs, which often experiences physical and psychological changes that can affect their emotions. The sampling technique used was purposive sampling with the

criteria of early adolescent boys and girls (10-13 years old).

Procedure

This research began with a preparatory phase, including the development of research instruments, scheduling, obtaining permits, and preparing the materials to be used. After the preparatory phase was completed, the pretest continued. During this phase, participants were asked to complete the Positive and Negative Affect Schedule (Watson, 1988) questionnaire, using only the positive dimension, to gauge their positive mood before the intervention. Furthermore, the researchers collected basic information about the participants and ensured that they met the established criteria.

The next phase was the intervention, which took place in a single, approximately 30-minute session, involving the screening of a cartoon. Participants were divided into two groups: one group watched a visual cartoon, and the other group listened only to an audio cartoon. Before the screening, the researchers prepared a comfortable, noise-free room to ensure participants could effectively participate. During the intervention, participants were expected to focus on the presentation given to their respective groups.

After the intervention, the posttest was conducted. Participants completed the Positive and Negative Affect Schedule (Watson, 1988) questionnaire again under the same conditions as the pretest. The purpose of completing this questionnaire is to determine positive mood changes after the intervention and also to conclude the series of studies.

Hypothesis

Hypothesis 1 (H1): There is a significant difference in the level of positive mood in early adolescents after being shown cartoon films in visual and audio form.

Hypothesis 2 (H2): There is a significant difference in the level of positive mood between male and female adolescents after being shown cartoon films..

Hypothesis 3 (H3): There is an interaction between the type of display (visual and audio) and gender on the level of positive mood in early adolescents.

Data Analysis

The data analysis technique used in this study is inferential statistical analysis to test the effect of independent variables on the dependent variable. Data obtained from the pre-test and post-test results will be analyzed using a two-way analysis of variance (ANOVA). ANOVA is used to test whether there is a significant effect of the type of display (visual and audio), gender (male and female), and the interaction between the two independent variables on changes in positive mood. Before conducting the ANOVA, the data will be tested for normality and homogeneity of variance assumptions to ensure that the data meets the required statistical requirements.

Normality tests will be performed using the Kolmogorov-Smirnov or Shapiro-Wilk tests, while homogeneity of variance will be tested using the Levene test. If these assumptions are met, a two-way ANOVA analysis can be performed. The results of the ANOVA analysis will indicate whether there is a main effect of each independent variable and the interaction between the two on positive mood. Furthermore, if a significant effect is found, a post-

hoc analysis will be conducted to determine which groups show significant differences. This analysis will be performed using statistical software such as SPSS or a similar program to ensure the accuracy of the analysis results. The analyzed data will be presented in tables and graphs to facilitate interpretation and support the discussion of the research results.

3 RESULT

Group Data Analysis Resul

Table 1: Descriptive Statistic.

Type of Display	Gender	Mean	Std. Deviation	N
Audio	**Male**	37.00	5.657	7
	Female	36.14	5.242	7
	Total	36.57	5.258	14
Visual	**Male**	40.57	2.225	7
	Female	38.43	4.791	7
	Total	39.50	3.757	14
Total	**Male**	38.79	4.526	14
	Female	37.29	4.968	14
	Total	38.04	4.726	28

Normality tests using the Kolmogorov-Smirnov and Shapiro-Wilk methods showed that the residual data from the positive mood post-test met the assumption of a normal distribution. The results of this test had a significance value (p-value) greater than 0.05, indicating there was insufficient evidence to reject the null hypothesis regarding data normality. In other words, the residual data distribution was considered normal, allowing it to be used for further statistical analysis, such as ANOVA, which requires a normal distribution assumption.

Normality test

Table 2: Normality Test

	Kolmogorov Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual For mood2	0.90	28	.200 *	.978	28	.798

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Homogeneity Test

Tests Of Between-Subjects Effects

Table 3: Homogenity Test

Dependent Variable: Mood Positif Post test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Correct Model	78.679[a]	3	26.226	1.201	.331
Intercept	40508.036	1	40508.036	1854.319	.000
X	60.036	1	60.036	2.748	.110
Y	15.750	1	15.750	.721	.404
X*Y	2.893	1	2.893	.132	.719
Error	524.286	24	21.845		
Total	41111.000	28			
Corrected Total	602.964	27			

a. R Squared = .130 (Adjusted R Squared = .022)

The homogeneity test aims to ensure that the variances between experimental groups are equal or homogeneous, which is an important assumption in statistical analyses such as ANOVA. The results of this test show a significance value (p-value) greater than 0.05, indicating that there is no significant difference in variance between groups. Thus, the null hypothesis regarding homogeneity of variance is accepted. This indicates that the data from all experimental groups have a similar variance distribution, so further statistical analysis can be performed without the need for special adjustments for heterogeneity of variance.

Two Way ANOVA Test

Tests Of Between-Subjects Effects

Table 4: Two Way Anova Test

Dependent Variable: Mood Positif Post test

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Correct Model	78.679[a]	3	26.226	1.201	.331
Intercept	40508.036	1	40508.036	1854.319	.000
X	60.036	1	60.036	2.748	.110
Y	15.750	1	15.750	.721	.404
X*Y	2.893	1	2.893	.132	.719
Error	524.286	24	21.845		
Total	41111.000	28			
Corrected Total	602.964	27			

a. R Squared = .130 (Adjusted R Squared = .022)

The results of the two-way ANOVA analysis showed that there was no significant effect of the type of broadcast on positive mood, with an F value of 2.748 and a p-value of 0.110. This indicates that the difference between audio and visual broadcasts was not large enough to be considered statistically influential on changes in positive mood in participants. Furthermore, gender also did not have a significant effect on positive mood, with an F value of 0.721 and a p-value of 0.404. This means that the difference between men and women in terms of response to positive mood was not large enough to be considered statistically relevant. Furthermore, the interaction between type of broadcast and gender was also not significant, indicated by an F value of 0.132 and a p-value of 0.719. Thus, there is no evidence that a particular combination of type of broadcast and gender has a significant effect on participants' positive mood. These results indicate that participants' positive mood was not influenced by factors such as type of broadcast, gender, or the interaction between the two.

Hypothesis Testing

Table 5 : Hypothesis Testing

	Unstandadized Coefficient		Standardized Coefficient		
Model	B	Std. Error	Beta	t	Sig.
Constant	38.893	6.666		5.835	.000
Gender	-1.500	1.736	-.162	-.864	.396
Type of Display	2.929	1.736	.316	1.687	.104

a. Dependent Variable: Mood Positif Post test

In this study, statistical tests showed that gender and type of film viewing did not significantly influence the increase in positive mood in the post-test. This is evident from the results of the ANOVA test and regression tests which showed a significance value greater than 0.05 for both variables. For gender, the significance value obtained was 0.404, which means that the difference between males and females did not significantly affect positive mood after being shown. Likewise, for the type of film viewing, which consisted of visual and audio viewing, the test results showed a significance value of 0.110, which was also greater than 0.05, so it can be concluded that the type of viewing did not significantly impact the participants' positive mood. Overall, these findings indicate that neither gender nor type of film viewing significantly contributed to changes in adolescents' positive mood in the post-test, although there was a difference in the average positive mood score between the groups given visual and audio viewing.

4 CONCLUSIONS

The results of the study indicate that the type of broadcast (visual and audio) and gender differences do not have a significant influence on the increase in positive mood in early adolescents.

Statistical analysis using a two-way ANOVA showed that the type of broadcast had an F value of 2.748 with p = 0.110, while gender had an F value of 0.721 with p = 0.404. These two results indicate that the difference in the average positive mood scores produced by visual and audio broadcasts, as well as between male and female adolescents, is not large enough to be considered statistically significant. The interaction between the two variables was also not significant, with an F value of 0.132 and p = 0.719, which means that the combination of type of broadcast and gender does not have a significant influence on changes in positive mood.

Although there were differences in the means, such as slightly higher positive mood in the group receiving visual versus audio, and in boys versus girls, these results are more likely due to individual variation or chance rather than a real influence of the experimental variables. Normality and homogeneity tests supported the validity of the data, while regression tests yielded similar results with significance values for type of display (p = 0.104) and gender (p = 0.396), both of which were not significant..

These findings suggest that factors beyond broadcast type and gender may be more relevant in influencing positive mood in early adolescents, such as social context, individual media preferences, or participants' initial emotional state. In practical applications, this study underscores the importance of a personalized approach to enhancing positive mood, rather than focusing solely on specific media types. Approaches that involve deeper emotional experiences or interactive elements may be more effective in helping adolescents improve their emotional well-being.

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