

K-Pop Influence: Examining the Link between Culture, Behavior, and Learning Motivation through Regression Correlation Analysis

Hanif Ayunda Safitri Haryanto¹, Amelia Millati Azka², Karunia Putri Parhusip³, Haryasena Panduwiyasa⁴

{hanifayundash@student.telkomuniversity.ac.id¹, ameliamillatiaz@student.telkomuniversity.ac.id²,
karuniaputri@student.telkomuniversity.ac.id³, haryasenapandu@telkomuniversity.ac.id⁴}

Telkom University, Bandung, Indonesia¹²³⁴

Abstract. This research investigates the impact of K-pop culture on behavior and learning motivation among 54 Telkom University students selected through purposive sampling due to their interest in K-pop. A quantitative survey method was used, collecting data via structured questionnaires that measured Culture, Behavior, and Learning Motivation. Correlation analysis showed a moderate positive relationship between Culture and Behavior ($r = 0.565$), indicating that higher engagement with K-pop culture corresponds with increased behavior related to this interest, though the relationship remains moderate. A similar moderate positive correlation ($r = 0.517$) was found between Culture and Learning Motivation, suggesting that students more engaged in K-pop culture tend to exhibit slightly higher motivation for learning. The strongest relationship observed was between Behavior and Learning Motivation ($r = 0.708$), emphasizing that behavioral engagement plays a more significant role in fostering students' learning motivation than cultural engagement alone. These findings contribute to understanding how specific cultural interests influence educational motivation, shedding light on the broader role of pop culture in student engagement and learning.

Keywords: K-Pop, Learning Motivation, Culture, Behavior.

1 Introduction

Korean pop culture, or Hallyu, particularly K-Pop, has now become a global phenomenon reaching various parts of the world, including Indonesia. K-Pop, short for Korean Pop, refers to a genre of popular South Korean music encompassing various styles, from pop and hip-hop to R&B. The term "K-Pop" is also frequently used to describe the type of music, songs, and dances produced by South Korean idols, including girl groups, boy bands, and solo artists [1]. K-Pop culture began to dominate Indonesia in early 2020, largely due to the COVID-19 pandemic, which led people to spend more time at home, thereby easing the entry of Korean culture through globalization and cross-cultural interaction [2].

According to a 2019 survey by IDN Times, K-Pop fans in Indonesia are generally within the 10-15 age range at 9.3%, ages 15-20 at 38.1%, ages 20-25 at 40.7%, and over 25 at 11.9%. This data clearly shows that the largest demographic of K-Pop fans falls within the 20-25 age group, where a significant portion of individuals in this age range are university students [3]. University

students are an interesting demographic to study because, in addition to being in a transitional phase toward adulthood, they have broader access to information and technology, which facilitates the consumption of K-Pop content across various digital platforms. During this phase, students are in the process of forming their identities and are generally more susceptible to global trends that influence aspects such as lifestyle, fashion, and social trends among university peers [4].

The influence of K-Pop in Indonesia extends beyond entertainment, impacting various aspects of life, including culture, behavior, and students' learning motivation. Learning motivation serves as a mediator between stimuli and response, reflecting the perspectives of individuals on their learning journey, where each learner will exhibit a unique need for acquiring knowledge based on their personal views [5]. Learning motivation is divided into two types: intrinsic and extrinsic. Intrinsic motivation originates within the individual, while extrinsic motivation comes from external sources, such as K-Pop culture, which may directly influence everyday life without being fully integrated. In terms of cultural influence, this phenomenon has shifted some of the younger generation's perspectives on social norms and values, making them more open to foreign cultures. Meanwhile, K-Pop behaviors reflect the influence of K-Pop that has been internalized by students, forming a set of activities that have become routine. From a behavioral standpoint, a strong interest in K-Pop often drives fans to be more active on social media, engage in online communities, and even motivate them to learn the Korean language.

The impact of K-Pop culture and behavior on students' learning motivation is a relevant topic to study due to the potential correlation between the adoption of popular culture and students' attitudes toward learning. Therefore, this research aims to explore how the culture and behaviors conveyed by K-Pop influence students' learning motivation through regression and correlation analysis. The results of this study are expected to provide a deeper understanding of the dynamics of popular culture and how it plays a role in shaping students' motivation and learning patterns today.

2 Method

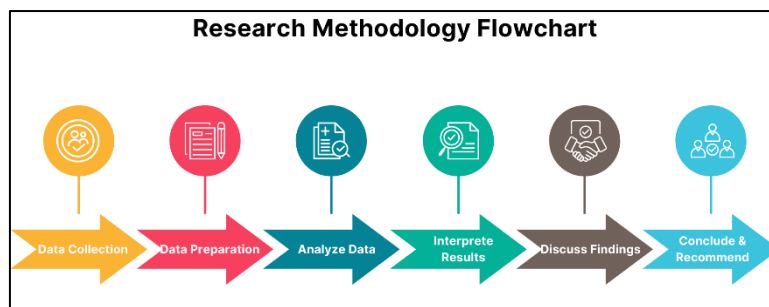


Figure 1. Research Methodology Flowchart

The methodology for the research is a quantitative approach supported by a survey design, allowing both quantitative and qualitative data collection to enrich the analysis. Structured questionnaires with Likert-scale questions will capture data for regression analysis, assessing the relationships among the variables Culture, Behavior, and Learning Motivation, while open-ended questions will provide qualitative insights into respondents' experiences with K-pop. A

purposive sample of active Telkom University students aged 18–25 who are K-pop fans ensures relevant data for this demographic, with sufficient sample size selected using purposive sampling to ensure data relevance for reliable regression analysis. To uphold data accuracy, all instruments should undergo validity and reliability testing. Multiple linear regression analysis will be used to determine the influence of Culture and Behavior on Learning Motivation, with descriptive statistics summarizing respondent characteristics. This approach enables robust evaluation of the hypothesis, highlighting the distinct contributions of Culture and Behavior to Learning Motivation. The inclusion of qualitative responses allows for a nuanced interpretation, enriching the discussion of findings in the context of K-pop’s impact on student behavior and learning motivation, with implications for future research and educational practices.

3 Discussion

Based on the distributed questionnaire, we gathered responses from 54 participants, aged 18 to 21, who are students at Telkom University with an interest in K-pop. Analysis of the data reveals that the majority of K-pop enthusiasts in this study are female and have engaged with K-pop culture for over seven years. Additionally, the findings suggest that music is the most compelling aspect of K-pop for these respondents.

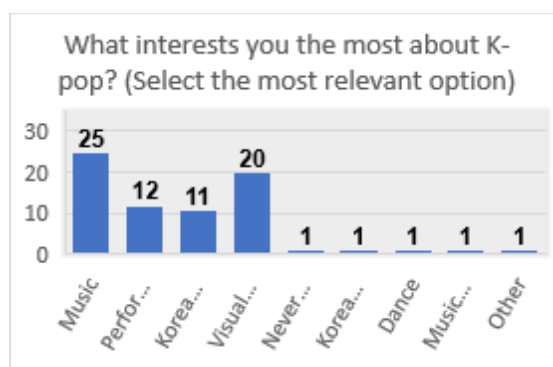


Figure 2. The results of the questionnaire drew attention related to K-pop

3.1 Impact on Culture

According to Nastiti, Hallyu or the Korean Wave is a term used to describe the spread of Korean pop culture globally across various countries, or in other words, the global development of Korean culture [6]. This development of globalization has significantly impacted the current generation. Initially regarded as a temporary trend that would soon pass, interest in K-Pop culture has remained strong and has even grown among various groups, especially among students [7].

The popularity of K-Pop has encouraged an increased interest in the Korean language, lifestyle, and values, which indirectly affects cultural consumption patterns, such as choices in music, fashion, and food. This change reflects a growing openness to foreign cultures while simultaneously challenging traditional norms. As a result, there is an enrichment of local culture due to the positive acceptance of external influences, but this also raises debates about the potential loss of original cultural values in the long term.

Based on survey results, it can be concluded that K-Pop culture has a significant influence on the perspectives of Indonesian youth and students regarding effort, interest in learning, and skill development. The majority of respondents believe that values such as hard work and discipline, as well as cultural elements like songs, language, and traditions in K-Pop, have a considerable to strong impact on their mindset and motivation to learn. Additionally, educational content related to K-Pop is also seen as having the potential to enhance the learning interest and skills of the younger generation in Indonesia.

Table 1. Table of Linear Scale Questions for Cultural Variables

Question	SD	D	N	A	SA	Total
Does the hard work and discipline often seen in the K-pop industry influence Indonesian teenagers' attitudes towards effort and learning?	1	4	11	29	10	54
How do you think K-pop culture, such as songs, traditions, and language, influences learning interests among teenagers or university students in Indonesia?"	1	3	9	24	17	54
Do you think educational or informational content related to K-pop has the potential to influence the learning interests or skill development of Indonesia's younger generation?"	-	1	11	30	12	54

note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree

3.1.2 Impact on Behaviour

Currently, many foreign cultures are easily entering Indonesia. In an ever-evolving era of globalization, this has become something difficult to avoid. The influx of foreign cultures is not something that is prohibited; however, consciously or unconsciously, many people in Indonesia struggle to filter these cultures first, which can gradually erode their sense of nationalism [8]. One example is the entry of Korean culture into Indonesia, which impacts changes in societal behavior. Behavior encompasses all forms of actions or activities performed by humans, whether observable or not, as a result of their interactions with the environment [9].

The impact of K-Pop on student behavior is evident in various aspects, particularly in lifestyle, language, and motivation to learn. The influx of Korean culture through the K-Pop wave influences students' clothing styles, music preferences, hairstyles, and the aesthetic values they adopt. Additionally, the Korean language has gained popularity among students, motivating them to learn it in order to understand their favorite Korean songs or dramas more deeply. Another significant impact is the emergence of learning behavior among students. Learning behavior is an attitude that arises within students as they respond to teaching and learning activities, indicating whether they are enthusiastic and responsible for the learning opportunities provided to them. This learning behavior motivates students academically, as some are inspired by the hard work and dedication of K-Pop idols, which they emulate in their own study efforts.

Have you experienced changes in your study habits or daily routine after being exposed to K-pop?

It's like creating a balance in life; when I'm stressed with assignments, bored, or feeling unproductive, I can play K-pop songs. Sometimes, new ideas come up while listening to K-pop or when I see updates from my bias; it boosts my spirit and lifts my mood.

Besides being entertaining, there are many positive points gained from being acquainted with K-pop, especially if approached with the right perspective and filtering. It instills a strong work ethic, perseverance in the face of failure, respect for others, and other values learned from idols.

Having an interest in the K-pop industry and liking one or several idol groups helps me pay attention to prioritization and time management. For example, I can maximize my activities on campus or studying during weekdays, while keeping weekends free for other tasks that can also include entertainment activities like watching K-pop content. This also affects my mindset to not feel too stressed about studying and instead enjoy it because I can determine my priorities.

The hard work and struggle of K-pop idols during their trainee period until debuting as K-pop stars greatly influence and motivate our views as fans on life, whether in studying or other routines. Their spirit and hard work are worth emulating and serving as examples. The motivations they convey, whether through their song lyrics or messages, have a significant impact on their fans.

Watching K-pop idols' content and routines motivates me to study harder, maintain discipline, believe in myself, and be ambitious. From K-pop idols, I see that if we have a dream or desire accompanied by effort, the results will be good. Thus, it can be seen that the relationship between exposure to K-pop and the changing routines of fans is positive if we can take the good side of it.

Sometimes when I see idols who are still underage or in school, it makes me realize that they work very hard. They can balance their work time but still find time to study, even preparing for CSAT. So, I feel a bit shocked; if they are that busy and still manage to study and go to school, I feel I should also strive to be diligent. They would surely be happier if their fans can balance fangirling with real life, especially since I often see many fans who achieve great things and receive appreciation from both their peers and the idols themselves. So, in some way, I feel motivated as well.

It's more about daily activities; in terms of studying, not much has changed. I find myself using my phone more often and staying up late for K-pop-related matters compared to before I got to know K-pop.

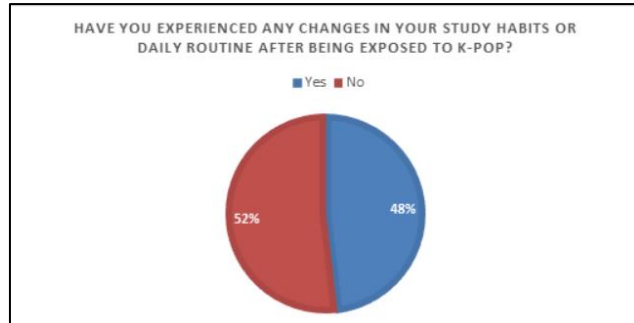


Figure 3. The results of the questionnaire in study habits or daily routine changes

In the pie chart, 52% of 54 people chose "no" for the question about changes in study habits or daily routines after exposure to K-pop. Meanwhile, 48% said that after getting to know K-pop, it has increased their motivation to study, relieved stress, helped them prioritize better, improved time management, and inspired them with the way idols work hard, do not give up when they fail, and respect others.

3.1.3 Impact on Learning Motivation

According to Idham, motivation theory relates to the factors that drive and direct behavior, and generally pertains to an individual's motivation to engage in an activity based on their underlying needs [10]. In this context, learning becomes the process of acquiring knowledge that can encourage changes in attitudes, habits, and behaviors through experience [11]. Thus, it can be interpreted that learning motivation is a state within an individual that triggers the urge to engage in specific activities to achieve goals.

Motivation to learn can arise from both external and internal factors. In the context of the influence of K-Pop on learning motivation, external factors include cultural influences and behaviors derived from the K-Pop world, while internal factors encompass feelings of identification, inspiration, and a desire for self-improvement that arise from engagement with K-Pop music and idols. These two factors enhance the complexity of K-Pop's influence in shaping and motivating an individual's learning process.

The success of individuals or groups in the K-Pop industry has an impact on providing inspiration and motivation for students to pursue their dreams in their respective fields. Additionally, the presence of K-Pop group and individual elements contributes 50% to students' enthusiasm for learning.

Table 2. Influence of Kpop Culture Exposure on Motivation Questions

Question	SD	D	N	A	SA	Total
In your opinion, does the success of individuals or groups in the K-pop industry inspire or motivate people in Indonesia to pursue their dreams in their respective fields?	1	0	9	23	22	54

Question	SD	D	N	A	SA	Total
How does the presence of group and individual elements in K-pop affect your learning spirit?	1	6	10	24	11	54

note: SD = Strongly Disagree, D = Disagree, N = Neutral, A = Agree, SA = Strongly Agree

Table 2 shows that most participants feel positively about K-pop's impact on motivation. For the first question, asking if the success of K-pop individuals or groups inspires Indonesians to pursue their dreams, 45 out of 54 participants agreed or strongly agreed, showing a strong positive influence. Only one participant strongly disagreed, and nine were neutral.

For the second question, which asks how K-pop's group and individual elements affect learning spirit, 35 participants agreed or strongly agreed, indicating a positive effect. Six disagreed, one strongly disagreed, and ten were neutral. This suggests that K-pop has a motivating effect on participants' learning and ambition.

Table 3. Impacts on the Influence of Kpop Culture Exposure

The positive impact of becoming a K-pop fan on study motivation.	The negative impact of becoming a K-pop fan on study motivation.
"I became more ambitious and diligent after watching medical, forensic, and legal dramas, or similar dramas, which are very relatable to my major and provide new information."	"For the negative impact, it might make us lazy to study because we often scroll through social media to keep up with the latest news."
"What is most evident is their hard work. Even though they sometimes fail and feel down, they will continue to learn by improving themselves to give the best for their fans."	"The use of phrases and/or harsh expressions in conversations in performing arts sometimes affects the way I speak in daily life."
"I become more enthusiastic about studying because of the indirect support given by the K-pop idols I like, and some of the K-pop idols are the same age as us, so fans and idols can encourage each other and motivate each other to study."	"Feeling dissatisfied and not content with results that are actually good because they tend to focus too much on the success of K-pop idols"
"Feeling dissatisfied and not content with results that are actually good because they tend to focus too much on the success of K-pop idols."	"My studying often gets sidetracked by listening to songs and watching their music videos because, when I hear a song, I usually get curious about its MV or lyrics."

First, because of the busy schedules of K-Pop idols, their very hectic and organized work schedules can serve as motivation for K-Pop fans to study, as they have role models who do something positive, who are diligent in their efforts, by studying and working. If one cannot limit enjoying K-Pop and becomes too obsessed with idol figures, it can disrupt daily life, focusing solely on the idols and neglecting personal life.

The respondents' generally favorable reactions to K-pop's effect suggest that watching K-pop content significantly improves their enthusiasm for studying and personal growth. The respondents reported feeling more motivated to learn Korean and more enthusiastic and

disciplined when completing academic assignments. Some respondents found inspiration in viewing Korean dramas related to their subjects of study, which increased their motivation to study more assiduously, intently, and ambitiously. In summary, K-pop consumption creates varied and significant learning experiences by stimulating the desire for self-development as well as a positive learning spirit.

According to the respondents' varied answers, it seems that K-pop's influence extends beyond just positive impacts, but it also has a number of drawbacks. Addiction, poor time management, excessive fanaticism, emotionality, wasting time, making rash purchases, and maybe lowering motivation to learn are all examples of K-pop's detrimental effects. However, other respondents underlined that effective time management and the capacity to distinguish the advantages of reading K-pop content can reduce these damaging effects.

3.2 Hypothesis Testing

Hypothesis testing is the process of evaluating whether a hypothesis is deemed reasonable and should be rejected, or if it is an acceptable statement and should be rejected based on data gathered from a sample [12].

- Null Hypothesis (H_0): This is the default assumption that there is no effect or no difference. It represents the status quo or a baseline measure.
- Alternative Hypothesis (H_1): This hypothesis suggests that there is an effect or a difference. It's what you're trying to support.

3.3 Regression Analysis

One of the most popular methods for assessing how an independent variable (x) affects a response variable (y) is regression analysis. Regression analysis is a method of choice whenever it predicts continuous variables given a multivariate input variable [13]. It often provides explicit estimates of measure for the cause-effect relationship between the individual inputs and the outcome, with an error estimate given by an optimization algorithm. Regression models are used in various communication networks and the internet of things-related tasks. These models are mostly built using data-driven statistical machine learning techniques to explicitly obtain a parametric relationship between the input or independent variables and the output. Footnotes.

3.4 Correlation Analysis

A correlation test is a statistical method used to measure the association between two variables, quantifying the strength and direction of their relationship [14]. It encompasses various techniques, such as Pearson's correlation for assessing linear relationships, Spearman's rank correlation for monotonic relationships, and Kendall's rank correlation for robust analysis. Each method offers unique benefits tailored to specific data characteristics, enabling accurate insights across different types of associations.

3.5 R-squared (R^2)

R-squared (R^2), also known as the coefficient of determination, is a statistical measure used in regression analysis to quantify the proportion of variance in the dependent variable that is explained by the independent variables within the sample [4]. In multiple linear regression, R^2 provides an estimate of how well the model accounts for the variation in the data, commonly

referred to as the proportion of variance explained. However, R^2 tends to overestimate this variance in the population.

Table 4. Survey Data Processing Results

	Culture	Behavior	Learning Motivation
0	3.0	3.5	3.5
1	4.3	3.0	2.0
2	4.0	3.3	3.3
3	4.0	2.7	3.0
4	5.0	3.3	3.3

The results of the correlation analysis show the relationships among three variables in the dataset: Culture, Behavior, and Learning Motivation. There is a moderate positive correlation between Culture and Behavior, with a correlation coefficient of 0.565. This means that as Culture increases, there tends to be an increase in Behavior as well, although the relationship is not very strong. The relationship between Culture and Learning Motivation also indicates a moderate positive correlation of 0.517, suggesting that an increase in Culture is likely to be followed by an increase in Learning Motivation, even though the correlation is not very strong. On the other hand, the variable *Behavior* shows a stronger correlation with Learning Motivation, with a correlation coefficient of 0.708. This indicates that Behavior has a greater influence on Learning Motivation compared to Culture, where higher values of Behavior tend to correspond with higher values of Learning Motivation. Overall, Behavior appears to have a more significant relationship with Learning Motivation than Culture.

Table 5. Correlation Coefficient Output

	Culture	Behavior	Learning Motivation
Culture	1.000000	0.565444	0.517309
Behavior	0.565444	1.000000	0.708095
Learning Motivation	0.517309	0.708095	1.000000

3. 6 Analysis of Correlation and Regression of Culture on Learning Motivation

An R^2 (R-squared) value of 0.2676 indicates that the linear regression model is only able to explain about 26.76% of the variability in the Motivation to Learn variable based on the Culture variable. This is a relatively low figure, suggesting that the relationship between Culture and Motivation to Learn is not very strong, or perhaps the Culture factor alone is not sufficient to significantly explain the changes in Motivation to Learn. The output generated from the Python programming results is as follows:

A Mean Absolute Error (MAE) of 0.35 indicates that the model's predictions, on average, have an error of about 0.35 units compared to the actual values of Motivation to Learn. The Residual Sum of Squares (MSE) of 0.20 shows the variance of errors in the model, emphasizing that the predictions still have some inaccuracy. Additionally, the regression model obtained is:

$$y = 1.02 + 0.43x$$

The regression equation can be represented as a straight-line equation, as shown in Figure 6.

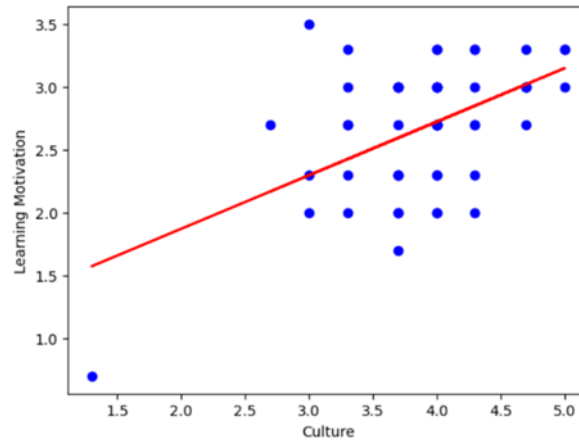


Figure 4. Linear Regression Model $y = 1.02 + 0.43x$

Table 6. Correlation Analysis: Finding the Correlation and Determination Coefficients

No	Culture (X1)	Learning Motivation (Y)	X1 ²	Y ²	(X1) (Y)
1.	4,3	2,0	18,8	4,0	8,7
2.	4,0	3,3	16,0	11,1	13,3
3.	4,0	3,0	16,0	9,0	12,0
4.	5,0	3,3	25,0	11,1	16,7
5.	4,3	2,7	18,8	7,1	11,6
...
50.	4,3	3,3	18,8	11,1	14,4
51.	4,0	2,3	16,0	5,4	9,3
52.	3,3	2,7	11,1	7,1	8,9
53.	4,0	3,0	16,0	9,0	12,0
54.	3,7	3,0	13,4	9,0	11,0
...

Correlation Analysis: Finding the Correlation and Determination Coefficients

Calculate the sample correlation coefficient and provide its interpretation according to Walpole.

$$\begin{aligned} r &= \frac{n \sum xy - \sum x \sum y}{\sqrt{[n(\sum x^2) - (\sum x)^2] [n(\sum y^2) - (\sum y)^2]}} \\ &= \frac{(54)(560,7) - (207)(136,7)}{\sqrt{[(54)(828,1) - (207)^2] [(54)(828,1) - (136,7)^2]}} \\ &= 0,51 \end{aligned}$$

The correlation coefficient value $r = 0.51$ refers to the Walpole Table, indicating a fairly strong but not significant relationship between x and y .

Coefficient of determination

The coefficient of determination is $r^2 = (0.517)^2 = 0.267$ or 26.7%. This means that approximately 26.7% of the variance in y values is caused by a linear relationship with x , and the remaining 73.3% is caused by other variables.

Hypothesis test for correlation that there is a linear relationship between culture and learning motivation using a significance level of 0.01

a. Hypothesis Formulation

H0: $\rho = 0$ (there is no significant linear relationship between culture and learning motivation)

H1: $\rho \neq 0$ (there is a significant linear relationship between culture and learning motivation)

b. Significance level $\alpha = 0.01$

c. Test Statistic Value using t-test:

$$\begin{aligned} t &= \frac{r\sqrt{n-2}}{\sqrt{1-r^2}} \\ &= \frac{0.52\sqrt{54-2}}{\sqrt{1-(0.26)}} = 4,3 \end{aligned}$$

d. The significance level $T \alpha/2 = 0.005$ and the degrees of freedom $v = n - 2 = 54 - 2 = 52$, then $(0.005; v = 52) = 2.660$. Therefore: $t_{hitung} > t(0.005; v = 52)$

Decision: Reject H0

e. Conclusion: Rejecting H0 indicates that there is a linear relationship between culture and learning motivation.

Regression Analysis to Find the Intercept and Slope/Coefficient for Culture vs. Learning Motivation

Based on Table 6, the intercept and coefficient values are then calculated to determine the strength of the relationship between the culture and motivation variables.

- a. Calculate the sample correlation coefficient and provide its interpretation according to Walpole.

$$\bar{Y} = a + bX$$

Intercept value (a):

$$\begin{aligned} a &= \frac{\sum y \sum x^2 - \sum x \sum xy}{n \sum x^2 - (\sum x)^2} \\ &= \frac{(139,7)(837,8) - (210)(571,2)}{(54)(837,8) - (210)^2} \\ &= 1,02 \end{aligned}$$

Slope value (b):

$$\begin{aligned} b &= \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2} \\ &= \frac{(54)(571,2) - (210)(144,5)}{(54)(837,8) - (210)^2} \\ &= 0,43 \end{aligned}$$

The regression equation:

$$y = 1,02 + 0,43x$$

Correlation and Regression Analysis of Behavior on Learning Motivation

Table 7. Correlation Coefficient Output Results

	Culture	Behavior	Learning Motivation
Culture	1.000000	0.565444	0.517309
Behavior	0.565444	1.000000	0.708095
Learning Motivation	0.517309	0.708095	1.000000

The correlation coefficient between Behavior (x) and Learning Motivation (y) is 0.708, indicating a fairly strong and positive relationship based on Walpole's reference table. The coefficient of determination is $r^2 = (0.708)^2 = 0.2925$ or 29.25%, meaning that approximately 32.49% of the variance in learning motivation is influenced by behavior, while the remaining 67.51% is attributed to other variables. In the next section, regression analysis and the creation of a regression model between the independent and dependent variables will be conducted.

The Relationship Between Behavior (X) and Learning Motivation (Y)

The R^2 value of 0.5014 indicates that approximately 50.14% of the variability in Motivation to Learn can be explained by the Behavior variable. This represents a significant improvement

compared to the previous model (using Culture as the variable). However, an R^2 value of 0.5014 still suggests that there are other variables or factors beyond Behavior that influence Motivation to Learn. So, while Behavior has a stronger relationship with Motivation to Learn than Culture, this model still does not fully explain the variability in Motivation to Learn. The output generated from the programming results in Python is as follows:

The Mean Absolute Error (MAE) of 0.29 indicates that the average error between the model's predicted values and the actual values for the Motivation to Learn variable is approximately 0.29 units. The Mean Squared Error (MSE) of 0.13 represents the square of the average prediction error. Additionally, the regression model obtained is:

$$y = 1.00 + 0.65x$$

The regression equation can be represented as a straight-line equation, as shown in the figure below.

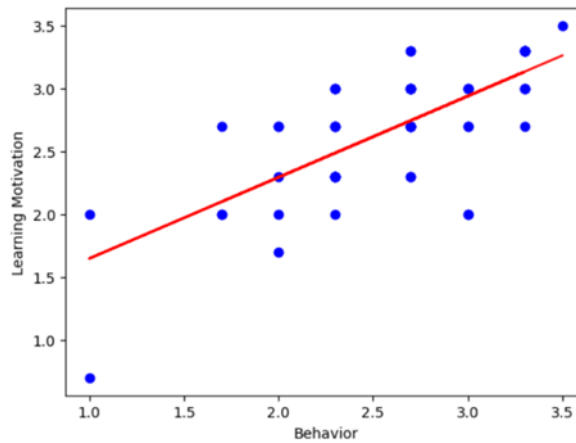


Figure 5. Linear Regression Model $y = 1.00 + 0.65x$

Correlation Analysis: Finding the Correlation and Determination Coefficients

Tabel 8. Correlation and Determination Coefficients

No	Culture (X1)	Learning Motivation (Y)	X1 ²	Y ²	(X1) (Y)
1.	2,0	2,0	9,0	4,0	6,0
2.	3,3	3,3	11,1	11,1	11,1
3.	3,0	3,0	7,1	9,0	8,0
4.	3,3	3,3	11,1	11,1	11,1
5.	2,7	2,7	9,0	7,1	8,0
...
50.	3,3	3,3	11,1	11,1	11,1
51.	2,3	2,3	5,4	5,4	5,4

No	Culture (X1)	Learning Motivation (Y)	X1 ²	Y ²	(X1) (Y)
52	2,7	2,7	2,8	7,1	4,4
53.	3,0	3,0	9,0	9,0	9,0
54.	3,0	3,0	9,0	9,0	9,0
...

$$r = \frac{n \sum xy - \sum x \sum y}{\sqrt{[n(\sum x^2) - (\sum x)^2] [n(\sum y^2) - (\sum y)^2]}}$$

$$= \frac{(54)(374,3) - (136,7)(141)}{\sqrt{[(54)(369,3) - (136,7)^2] [(54)(389,2) - (141)^2]}}$$

$$= 0,708$$

Coefficient of Determination

The coefficient of determination is $r^2 = (0.708)^2 = 0.501$ atau 50,1%. This means that approximately 50.1% of the variance in the value of y is due to the linear relationship with x, while the remaining 49.9% is attributed to other variables.

Hypothesis test for correlation that there is a linear relationship between Behavior and Learning Motivation using a significance level of 0.01.

- Hypothesis Statement
 - H0: $\rho = 0$ (There is no significant linear relationship between Behavior and Learning Motivation.)
 - H1: $\rho \neq 0$ (There is a significant linear relationship between Behavior and Learning Motivation.)
- Significance Level $\alpha = 0.01$
- Test Statistic Value using t-test:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

$$= \frac{0.70\sqrt{54-2}}{\sqrt{1-(0.50)}} = 7,2$$

- The significance level $T \alpha/2 = 0.005$ and degrees of freedom $v = n - 2 = 54 - 2 = 52$
 Thus $t(0.005; v = 52) = 2.660$
 Thus: $thitung > t(0.005; v = 52)$
 Decision: Reject H0
- Conclusion: There is a significant linear relationship between Behavior and Learning Motivation.

Regression Analysis to Find the Intercept and Slope/Coefficient for Behavior vs. Learning Motivation

Based on Table 7, the intercept and coefficient values are then calculated to determine the strength of the relationship between the culture and motivation variables.

- a. Calculate the sample correlation coefficient and provide its interpretation according to Walpole.

$$\bar{Y} = a + bX$$

Intercept value (a):

$$\begin{aligned} a &= \frac{\sum y \sum x^2 - \sum x \sum xy}{n \sum x^2 - (\sum x)^2} \\ &= \frac{(141)(369,3) - (136,7)(374,3)}{(54)(369,3) - (136,7)^2} \\ &= 1.002 \end{aligned}$$

Slope Value (b)

$$\begin{aligned} b &= \frac{n \sum xy - \sum x \sum y}{n \sum x^2 - (\sum x)^2} \\ &= \frac{(54)(374,3) - (136,7)(141)}{(54)(369,3) - (136,7)^2} \\ &= 0,645 \end{aligned}$$

The regression equation:

$$y = 1.00 + 0.65x$$

4 Conclusions

This study highlights the significant influence of K-pop culture on both behavior and learning motivation among Telkom University students. The moderate positive correlations identified between Culture and Behavior, as well as between Culture and Learning Motivation, indicate that students who engage more with K-pop culture are likely to exhibit increased relevant behaviors and, to a lesser extent, higher learning motivation. However, the strongest correlation found between Behavior and Learning Motivation suggests that active participation in K-pop-related activities is a key driver of students' motivation to learn.

These findings underscore the importance of recognizing how cultural phenomena, like K-pop, can enhance student engagement and motivation in educational settings. Understanding these relationships provides educators and researchers with insights that can inform strategies to harness cultural interests to foster learning. Moreover, this research lays the groundwork for future inquiries into how various cultural influences shape student behavior and motivation, encouraging a more nuanced exploration of the intersection between pop culture and education.

By addressing the dynamics of cultural engagement, this study contributes to a broader understanding of the factors that can positively affect learning outcomes in today's diverse educational landscape.

Acknowledgments. We would like to express our sincere gratitude to Telkom University for their generous funding and support in providing the necessary research facilities that made this study possible. Our heartfelt appreciation goes to Mr. Haryasena Panduwinasa for his invaluable guidance and mentorship throughout the research process. We also extend our thanks to the faculty and staff who assisted in facilitating access to resources. Additionally, we would like to acknowledge the participants who took the time to complete the questionnaires, as their insights were invaluable to our research findings. A special thank you to our parents and family for their unwavering support and encouragement during this journey. Finally, we would like to thank our colleagues and peers for their constructive feedback and encouragement throughout the study. All individuals acknowledged have granted their permission for their names to be included in this acknowledgment.

Reference

- [1] N. Sri Yenti, N. Mairiza, N. Angraini, E. Febriani, and P. Fadilla, "Dampak Budaya Korea Pop (K-Pop) Terhadap Tingkat Motivasi Belajar Mahasiswa Universitas Negeri Padang," *Enggang: Jurnal Pendidikan, Bahasa, Sastra, Seni, dan Budaya*, vol. 2, no. 2, pp. 176–191, 2022.
- [2] A. M. Putri, "Maraknya Industri K-Pop di Kalangan Mahasiswa Konten ini telah tayang di Kompasiana.com dengan judul 'Maraknya Industri K-Pop di Kalangan Mahasiswa', <https://www.kompasiana.com/amp5532/6551f504eb51ce7bc06dbe82/maraknya-industri-k-pop-di-kalangan-mahasiswa>, Kreator: Aisha Maulidina Putri," Nov. 13, 2023.
- [3] Triadanti, "Jadi Gaya Hidup, Benarkah Fans KPop Kaya Raya atau Cuma Modal Kuota?," Feb. 26, 2019.
- [4] A. Aprianti, "Pengaruh Budaya KPop."
- [5] Ayok Ariyanto and Sulistyorini, "Konsep Motivasi Dasar dan Aplikasi Dalam Lembaga Pendidikan Islam," *AL-ASASIYYA: Journal Basic Of Education*, vol. 4, pp. 103–114, 2020, [Online]. Available: <http://journal.umpo.ac.id/index.php/al-asasiyya/index>.
- [6] N. Syahira Azima, Y. F. Furnamasari, and D. A. Dewi, "Pengaruh Masuknya Budaya Asing Terhadap Nasionalisme Bangsa Indonesia di Era Globalisasi," *Jurnal Pendidikan Tambusai*, vol. 5, pp. 7491–7496, 2021.
- [7] L. A. Putri, "Dampak Korea Wave Terhadap Perilaku Remaja di Era Globalisasi," *Al-Ittizaan: Jurnal Bimbingan Konseling Islam*, vol. 3, pp. 42–48, 2020.
- [8] N. A. Riswanto, "Pengaruh Antusiasme K-Pop Terhadap Perilaku Belajar Mahasiswa PAI di Universitas Islam Negeri Raden Intan Lampung", Accessed: Oct. 31, 2024. [Online]. Available: <https://repository.radenintan.ac.id/32901/>
- [9] D. Arfianti Siregar, M. Yasir, and M. Yasir Nasution, "Konsep Perilaku Manusia Dalam Ekonomi Islam," *Syntax Literate: Jurnal Ilmiah Indonesia*, vol. 12, no. 7, pp. 18626–18636, 2022, doi: 10.36418/syntax-literate.v7i12.11036.
- [10] D. A. Hidayati, S. Dini, R. Fitriani, and S. Habibah, "Realitas Sosial Remaja Penggemar Budaya Korea (K-POP) di Bandar Lampung," vol. 4, no. 2, p. 2022.
- [11] S. Rahman, *Pentingnya Motivasi Belajar Dalam Meningkatkan Hasil Belajar*. 2021.

- [12] M. Rubin and C. Donkin, "Exploratory Hypothesis Tests Can be More Compelling than Confirmatory Hypothesis Tests," *Philos Psychol*, 2022, doi: 10.1080/09515089.2022.2113771.
- [13] D. C. Montgomery, E. A. Peck, and G. G. Vining, *Introduction to Linear Regression Analysis*.
- [14] D. Makowski, M. Ben-Shachar, I. Patil, and D. Lüdtke, "Methods and Algorithms for Correlation Analysis in R," *J Open Source Softw*, vol. 5, no. 51, p. 2306, Jul. 2020, doi: 10.21105/joss.02306.