

**CULTURAL ADAPTATION IN CHARACTER
EDUCATION: SUNDANESE LITERATURE-BASED
COMICS IN THE JABAR MASAGI PROGRAM**

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ABSTRACT

This study examines the role of comics based on ancient Sundanese literature as a medium for character education within the Jabar Masagi program. Manga, or Japanese comics, are often considered an effective form of character education media, and this study adapts that format using local cultural content. A quasi-experiment with a 2 x 1 factorial design, based on message type (positive and negative), was conducted with 66 students divided into two treatment groups and 33 students in a control group. Student members of the Japan Smavo Japanese Club participated in the comic development process to ensure cultural relevance. Results indicate that Jabar Masagi comics with negative messages significantly improved students' knowledge, attitudes, and perceptions of noble values, whereas comics with positive messages did not enhance perceptions. Increases in knowledge, attitudes, and perceptions were also influenced by familiarity, interest, and family environment supportive of character education. The West Java Provincial Government is advised to integrate comics based on local wisdom into the Jabar Masagi program through participatory approaches and broad dissemination to strengthen contextual and sustainable character internalization.

Keywords: comics; character education; Jabar Masagi program; Sundanese literature; local wisdom

INTRODUCTION

The younger generation is experiencing a moral decline due to their impressionable condition, which makes them vulnerable to value shifts. Many adolescents are unaware of, or have forgotten, the noble values of local culture preserved for centuries (Bahri, 2015).

Data from the Indonesian Child Protection Commission (Komisi Perlindungan Anak Indonesia, KPAI) from 2016 to 2022 show that 2,883 children were in legal trouble as perpetrators of violence (see Figure 1). Although the number of children in conflict with the law (anak yang berhadapan dengan hukum, ABH) decreased nationally from 2019 to 2022, physical violence remained the most prevalent and concerning case (Adhantyo, 2022).

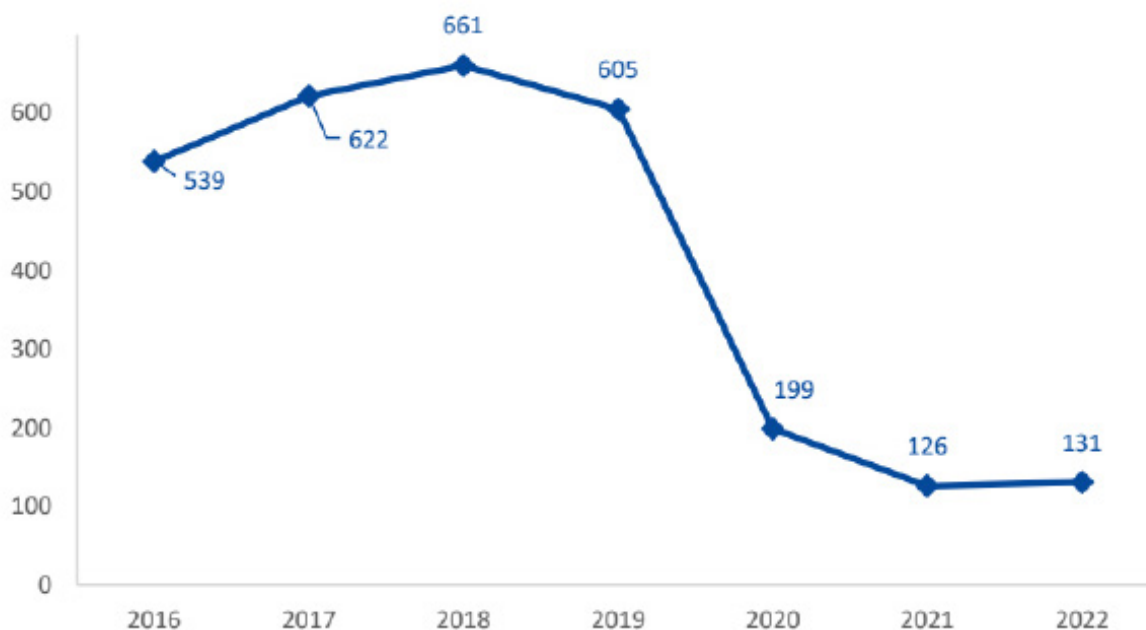


Figure 1 Children as Perpetrators of Violence 2016-2022
Source: Adhantyo, 2022

Concerns about declining condition of children's morality has encouraged the world of education to make breakthroughs to solve the problem. This is based on the reason that education plays a central role in instilling moral values in students (Ruslan et al., 2016), which contributes to building a prosperous society (Syharuddin et al., 2016). Children spend approximately 900 hours per year at school (Character Education Partnership, 2010), which underscores the proactive role schools can play in assisting families and communities to cultivate noble values. Such efforts ultimately foster a positive moral culture among youth, highlighting the importance of schools in character formation (Pala, 2011).

Character education has been institutionalized nationally through the Strengthening Character Education policy (Presidential Regulation No. 87/2017). In West Java, this is implemented through the Jabar Masagi program, designed to foster youth character development rooted in local wisdom (Portal Jabar, 2022). This program also addresses the high incidence of student violence in West Java, the highest in Indonesia (Rizaty, 2022).

Jabar Masagi integrates local wisdom into school and daily life, aiming to develop a culturally aware and ethically responsible younger generation. By placing Jabar Masagi at the center of learning, of the program seeks to reduce student violence by instilling ethics and social responsibility (Basyuni et al., 2016).

The program has been implemented across all districts and municipalities in West Java, including SMAN 2 Cibinong. The school is ranked among the top ten public schools in West Java (158th nationally; Yusup, 2023). Despite this achievement, SMAN 2 Cibinong continues to face character-related problems such as theft, impoliteness, and tardiness, particularly among 10th-grade students. This is concerning, given that Jabar Masagi was introduced during the Masa Pengenalan Lingkungan Sekolah (MPLS, or school orientation). A preliminary survey showed that 57.1% of 10th-grade students knew about the Jabar Masagi program, yet only 78.6% of them still remembered and practiced its values.

This condition indicates that Jabar Masagi values have not been fully internalized among students. More effective approaches are required to ensure that the program's values are not only recognized but also practiced in daily life. One promising strategy is the use of engaging media, which has been shown to positively influence behavior and educational quality (Wibowo & Koeswanti, 2021).

Comics rooted in local wisdom have been tested as tools for strengthening student character (Amaruddin et al., 2018; Arsitawati et al., 2020). Comics attract readers through visual panels and dialogue balloons, offering a casual and entertaining format that does not burden readers (Bonneff, 2008). Their effectiveness aligns with Mayer's cognitive theory of multimedia learning, which suggests that individuals learn more effectively when provided with both visual and verbal information (Fahyuni & Fauji, 2017). Previous research has shown that comics improve motivation (Höttecke & Allchin, 2020), increase interest (Amaruddin et al., 2018; Liu et al., 2019), enhance comprehension, and facilitate learning (Liu et al., 2019). Comics also encourage imagination, reinforcing their role as effective learning media (Khotimah et al., 2019).

Similarly, literary works can be developed as tools for character education (Hayati et al., 2020). Many contain moral values, such as the ancient Sundanese literary work *Mundinglaya Dikusumah*, which highlights characters embodying moral excellence (Isnendes, 2013).

From 2017 to 2022, eleven studies examined comics for character education using a local wisdom approach (Amaruddin et al., 2018; Asrial et al., 2022; Febriani et al., 2021; Kurniawati et al., 2017; Murti, 2020; Pandanwangi & Nuryantiningsih, 2018; Priyangga et al., 2022; Sari et al., 2020; Swandi et al., 2020; Wicaksana, 2018; Widiyastuti et al., 2021), primarily focusing on folklore as a source of positive values. Only one study (Arsitawati et al., 2020) targeted high school students. Furthermore, just two studies (Wicaksana, 2018; Asrial et al., 2022) used experimental methods and found that local wisdom comics improved knowledge. Other studies conducted limited experiments, focusing on the feasibility of comics as educational media.

Student engagement in comic-making projects has been shown to produce culturally grounded visual literacy products. When students create and share their own comics, they engage in deeper literacy exploration than through traditional learning methods. Such projects enhance literacy skills, foster creativity, and provide opportunities for students to express and share their perspectives on societal challenges. These projects also demonstrate the transformative power of art, inspiring and empowering children through the process of making comics (Bitz, 2004).

Building on this foundation, this study examines digital comics created by students and adapted from *Mundinglaya Dikusumah*. These comics hold potential as media for implementing the Jabar Masagi program's character education goals. The adaptation combines classical Sundanese literature with manga-style comics, appealing to teenagers while revitalizing cultural heritage that risks fading in the modern era. The choice of digital comics is also practical, as smartphones allow easy access to both information and entertainment, including comics (Swandi et al., 2020).

This study further introduces the concept of positive and negative messages in comics, a factor previously unexplored in character education media. The framework is adapted from Nasution et al. (2018), who demonstrated that message framing significantly enhanced students' knowledge and perceptions regarding dengue prevention. The novelty of this research lies in combining West Java's local wisdom combined with manga-style comics co-created by students.

Finally, the study also explores other influencing factors identified in previous research—familiarity (Astiningrum & Prawitasari, 2015), interest (Nasution et al., 2018; Sunarto, 2020), and family

environment (Nasution et al., 2018)—to provide a comprehensive understanding of character education outcomes.

The study introduces a novel approach through the development of digital comics based on the ancient Sundanese literary work *Mundinglaya Dikusumah*. The comics combine the Japanese manga style and were created directly by students. They not only emphasize local wisdom values from West Java as a means of cultural revitalization—currently at risk of erosion—but also employ a positive and negative messaging strategy not previously applied in character education. In addition to testing media effectiveness, the study examines the influence of familiarity, interest, and family environment on students' knowledge and attitudes. The primary contribution of this research is the creation of visual literacy-based educational media tailored to millennials and Gen Z, supported by a participatory approach that fosters creativity, active engagement, and deeper internalization of values.

RESEARCH METHODS

This study used a quasi-experimental design with a 2 x 1 factorial arrangement and a pretest–posttest control group design (Campbell & Stanley, 1996). A quasi-experimental approach was chosen because the researcher could not fully control external factors during the learning process. The factorial design involved two treatment groups and one control group. The treatment groups were (A) positive-message Jabar Masagi comic and (B) negative-message Jabar Masagi comic. The control group (C) received no treatment.

The independent variables included familiarity (X1), interest (X2), and family environment (X3). The dependent variables were knowledge (Y1), attitude (Y2), and perception (Y3) related to local wisdom values.

The research was conducted from April to May 2023 with 10th-grade students at SMAN 2 Cibinong. Purposive sampling was applied. Initially, 108 students were recruited; however, the number was reduced to 99 due to student absences. Each group (A, B and C) contained 33 students, meeting the minimum sample size of 30 participants per group (Fraenkel & Norman, 1993). Previous experimental studies (e.g., Leung et al., 2014; Furuno & Sasajima, 2015) have also used 20–30 participants.

Data were collected using questionnaires, supported by interviews, and supplemented with secondary data from relevant institutions. The research procedure comprised four stages: 1) designing the Jabar Masagi comic; 2) testing and evaluating the design with experts; 3) testing the research instruments; and 4) conducting the quasi-experiment.

Instrument validity and reliability were tested with 35 10th-grade students at SMK Putra Mandiri Bangsa, Ciawi District. Of 22 questionnaire items and 25 pretest–posttest items, all were found valid. Cronbach's alpha coefficients indicated high reliability: familiarity = .816; interest = .908; family environment = .816; perception = .929. Knowledge was not tested for reliability as it was not opinion-based. A normality testing using SPSS 27 indicated non-normal data distribution ($p < .05$), likely due to heterogeneous student backgrounds resulting from the zoning policy, Certificate of Disability (SKTM), and other admission criteria. Consequently, nonparametric statistical analyses were applied.

Data analysis included classical assumption tests, univariate analyses to describe each variable, and inferential analyses using the Wilcoxon signed-rank test (to measure pre–post differences) and the Spearman rank correlation test (to examine relationships between familiarity, interest, and family environment with knowledge and perception of local wisdom values).

RESEARCH FINDINGS

Character-Based Jabar Masagi Comic from Sundanese Literary Heritage

Participants in the Jabar Masagi Comic project were members of the Smavo Japanese Club. They began by writing a script inspired by the literary work *Mundinglaya Dikusumah*, which is rich in moral values. The students were also reintroduced to the Jabar Masagi program to integrate its concepts into

the comic as a part of the character education initiative. After sketching ideas, they compiled them into comics, demonstrating that creativity and education can synergize to address the challenges of modernization in fostering positive character.

The comic creation process, completed within one month, fulfilled key components of literacy: story design, character development, and artistic devices. The comics, delivered in everyday language with comedic elements, also reflected the “edutainment” approach noted in previous studies (McPhail, 2009).

- Technical Production used Clip Studio Paint and Corel Draw X7, with typefaces sized 30 for covers and 12–14 for dialogue balloons. The final manga-style comics consisted of 20 full-color pages, accessible digitally via QR Code. Two message types were embedded: Negative messages emphasized problems or consequences of deviant behaviour, aiming to trigger concern and motivate change.
- Positive messages depicted inspirational figures, highlighting success achieved through strong character and morality.

The central figure featured from Sundanese literature was *Mundinglaya Dikusumah*, a model of moral virtue.

Knowledge Changes regarding the Noble Values of the Jabar Masagi Program among Respondents

Respondents’ initial knowledge of the noble values introduced in the Jabar Masagi character education program was high before the intervention. In the groups exposed to positive message comics, most respondents demonstrated high initial knowledge (Group A = 75.8%; Group B = 81.8%). A similar pattern appeared in the control group, although with a lower proportion in the high category (48.5%). Further analysis of respondents’ prior knowledge indicated that they primarily understood the program’s expectations, while the noble values of local wisdom remained unfamiliar. Consequently, respondents scored lower on items assessing knowledge of virtuous characters and the values of local wisdom reflected in ancient Sundanese literature.

Table 1 Number and Percentage of Respondents in Treatment and Control Groups Based on Initial and Final Knowledge of Noble Values of Local Wisdom

Group Type	Prior Knowledge						Final Knowledge					
	High (≥ 5)		Medium ($2 \leq x < 5$)		Low (< 2)		High (≥ 11)		Medium ($7 \leq x < 11$)		Low (< 7)	
	Total (Person)	%	Total (Person)	%	Total (Person)	%	Total (Person)	%	Total (Person)	%	Total (Person)	%
A. Group A (Positive Comics, $n = 33$)	25	75.8	8	24.2	0	.0	29	87.9	4	12.1	0	.0
B. Group B (Negative Comics, $n = 33$)	27	81.8	5	15.2	1	3.0	27	81.8	5	15.2	1	3.0
C. Group C (Control, $n = 33$)	16	48.5	15	45.5	2	6.0	15	45.5	17	51.5	1	3.0

Source: Processed Research Data, 2023

The final knowledge of Group A (treatment) increased, with 87.9% in the high category and only 12.1% in the moderate category. This improvement reflects a shift from moderate to high knowledge. Conversely, Group B (treatment) showed a slight decline in the high category (81.8%), due to one respondent shifting to moderate. In the control group (Group C), the high category decreased to 45.5%, reflecting the absence of the Jabar Masagi comic intervention (Table 1).

Table 2 Percentage of Respondents in the Treatment and Control Groups after Intervention on Knowledge of the Noble Values of Local Wisdom

No.	Statement	Group A (Positive Comics)		Group B (Negative Comics)		Control Group	
		Yes	No	Yes	No	Yes	No
1	What is Jabar Masagi?	97%	3%	82%	18%	70%	30%
2	Since what year was Jabar Masagi initiated?	67%	33%	85%	15%	36%	64%
3	Four concepts in Jabar Masagi?	94%	6%	88%	12%	76%	24%
4	What skills are youth/students expected to have with the Jabar Masagi program?	91%	9%	88%	12%	91%	9%
5	Which ancient Sundanese literary figures have good character traits?	52%	48%	58%	42%	27%	73%
6	Why is it important to teach ancient Sundanese literature to students?	79%	21%	70%	30%	64%	36%
7	What is the value of the <i>Mundinglaya</i> story?	91%	9%	82%	18%	48%	52%

Source: Processed Research Data, 2023

Table 2 shows that respondents in Group A demonstrated a greater understanding of the noble values of local wisdom after the intervention compared with Group B and the control group.

Knowledge of the concept of Jabar Masagi, the program's expected competencies, and the values in the *Mundinglaya* story were the most mastered components. However, areas needing improvement include knowledge of the year Jabar Masagi was initiated, the four conceptual pillars, Sundanese literary figures with exemplary character, and reasons for teaching classical Sundanese literature.

Table 3 Mean Scores of Changes in Respondents' Knowledge on the Noble Values of Local Wisdom in the Treatment and Control Groups

Group Type	Knowledge		
	Initial Mean	End Mean	Changes Mean
Group A (Positive Comics, $n = 33$)	4.88	5.70	.82
Group B (Negative Comics, $n = 33$)	4.70	5.64	.94
Group C (Control, $n = 33$)	4.18	4.12	-.06

Source: Processed Research Data, 2023

Table 3 indicates a knowledge increase in both treatment groups (A and B), with higher post-intervention mean scores. In contrast, the control group (C) showed a decline of .06.

The Wilcoxon test of knowledge variables in each treatment group (Table 4) shows a significant increase in knowledge, as indicated by a $p < .05$ ($\alpha < .05$). This finding suggests that exposure to Jabar Masagi comics positively influenced respondents' knowledge of the noble values of local wisdom. In contrast, the Wilcoxon test for the control group (Table 4) yielded a p of .414 $> .05$ ($\alpha < .05$), indicating no significant difference between pretest and posttest results. This lack of effect can be attributed to the absence of Jabar Masagi comic exposure, resulting in no meaningful change in knowledge scores.

Table 4 Wilcoxon Test Results of Respondents' Knowledge Variables on the Noble Values of Local Wisdom in the Treatment and Control Groups

Location	Average Value			Wilcoxon Test
	Pretest	Posttest	Difference	p-value
Group A (Positive Comics, <i>n</i> = 33)	4.88	5.70	.82	.002*
Group B (Negative Comics, <i>n</i> = 33)	4.70	5.64	.94	.000*
Group C (Control, <i>n</i> = 33)	4.18	4.12	-.06	.414 ^{ns}

Note. *p* < .05 indicates statistical significance. ns = not significant.

Source: Processed Research Data, 2023

Changes in Perceptions of the Noble Values of Local Wisdom among Respondents

Respondents' initial perceptions of the noble values promoted in the Jabar Masagi program were generally favorable, with most categorized as high. In groups A and B (treatment) and Group C (control), the initial high perception scores were 72.7%, 84.8%, and 81.8%, respectively (Table 5). Following the intervention, Group A increased to 81.8% in the high category.

Table 5 Number and Percentage of Respondents in Treatment and Control Groups based on Initial and Final Perceptions of Noble Values of Local Wisdom

Group Type	Prior Knowledge						Final Knowledge					
	High (≥ 27)		Medium ($18 \leq x < 27$)		Low (< 18)		High (≥ 11)		Medium ($7 \leq x < 11$)		Low (< 7)	
	Total (Person)	%	Total (Person)	%	Total (Person)	%	Total (Person)	%	Total (Person)	%	Total (Person)	%
A. Group A (Positive Comics, <i>n</i> = 33)	24	72.7	9	27.3	0	.0	27	81.8	6	18.2	0	.0
B. Group B (Negative Comics, <i>n</i> = 33)	28	84.8	5	15.2	0	.0	28	84.8	5	15.2	0	.0
C. Group C (Control, <i>n</i> = 33)	27	81.8	6	18.2	0	.0	26	78.8	7	21.2	0	.0

Source: Processed Research Data, 2023

This finding indicates a decrease in the percentage of respondents in the moderate category to 18.2%. Moreover, the final perception scores of respondents in Group B were consistent with the pretest results. Notably, the score for the statement regarding respondents' perceptions of the government's socialization of the noble values of local wisdom as an effective means to address moral degradation increased, even though the initial score had been the lowest. In contrast, the control group showed a decline in the percentage of respondents in the high category to 78.8%, attributable to the absence of the Jabar Masagi comic intervention.

Table 6 Percentage of Respondents in the Treatment Group and Control Groups after Intervention regarding Perceptions of the Noble Values of Local Wisdom, by Positive and Negative Responses

No.	Statement	Group A		Group B		Control Group	
		(Positive Comics)		(Negative Comics)			
		Positive	Negative	Positive	Negative	Positive	Negative
1	Can character building help reduce student violence?	91%	9%	97%	3%	88%	12%
2	Can local wisdom content help improve character?	94%	6%	94%	6%	97%	3%
3	Can ancient Sundanese literature help instill positive values?	97%	3%	97%	3%	97%	3%
4	Will the character-building program succeed in shaping individuals based on local wisdom?	91%	9%	88%	12%	85%	15%
5	Will government efforts to promote character values grounded in local wisdom be effective in addressing moral degradation?	94%	6%	97%	3%	91%	9%
6	Is it important to have a character-building program in schools?	94%	6%	100%	0%	94%	6%
7	Can character be changed or improved through appropriate programs?	94%	6%	97%	3%	85%	15%
8	Will collaboration among schools, parents, and students be effective in developing good character?	97%	3%	97%	3%	97%	3%
9	Is the character-building program still relevant today?	94%	6%	94%	6%	97%	3%

Note. Positive responses include “strongly agree” and “agree” (scores 4 and 3). Negative responses include “disagree” and “strongly disagree” (scores 1 and 2)

Source: Processed Research Data, 2023

As shown in Table 6, all groups reported positive perceptions (>90%) regarding the importance of noble values of local wisdom. This indicates that in general, students have a good awareness and understanding of the importance of these values. However, groups A and Group B reported slightly higher positive perceptions than the control group, underscoring the effectiveness of the comic intervention. Positive-message comics enhanced respondents’ appreciation of local wisdom, while

negative-message comics produced a contrast effect—motivating respondents to value local wisdom as a positive alternative to negative behavior portrayed in the comics. The control group, on the other hand, lacking intervention, likely relied on personal experience and knowledge.

Table 7 Mean Changes in Respondents' Perceptions of Noble Values of Local Wisdom in the treatment and control groups

Group Type	Perception		
	Initial <i>Mean</i>	End <i>Mean</i>	Changes <i>Mean</i>
Group A (Positive Comics, $n = 33$)	27.45	28.18	.73
Group B (Negative Comics, $n = 33$)	27.48	29.64	2.16
Group C (Control, $n = 33$)	27.97	27.85	-.12

Source: Processed Research Data, 2023

Based on the study results, the provision of character education media in the form of Jabar Masagi comics produced significant perceptual changes in the treatment group. This change is indicated by a higher mean value compared with the control group (see Table 7). Moreover, comparison to the initial and final perception data of respondents in the treatment group showed an increase in the high category.

Table 8 Wilcoxon Test Results of Respondents' Perception Variables on the Noble Values of Local Wisdom in the Treatment and Control Groups, 2023

Location	Average Value			Wilcoxon Test
	<i>Pretest</i>	<i>Posttest</i>	<i>Difference</i>	<i>p-value</i>
Group A (Positive Comics, $n = 33$)	27.45	28.18	.73	.060 ^{ns}
Group B (Negative Comics, $n = 33$)	27.48	29.64	2.16	.000*
Group C (Control, $n = 33$)	27.97	27.85	-.12	.340 ^{ns}

Note. $p < .05$ indicates statistical significance. ns = not significant.

Source: Processed Research Data, 2023

The Wilcoxon test results for the perception variable in Group B, the treatment group (Table 8), demonstrated a statistically significant increase in perception ($p < .05$). This finding indicates that the use of Jabar Masagi comics positively influenced respondents' perceptions. In contrast, the results for Group A (treatment) and Group C (control) yielded p -values of .060 and .340, respectively, both greater than .05. Therefore, the differences between pretest and posttest scores for these groups were not statistically significant.

The decrease in post-test scores in the control group (Group C) was likely due to natural fluctuations, as no intervention was provided to reinforce respondents' understanding. Fatigue or decreased motivation during the post-test may also have contributed to these results.

Relationship of Familiarity, Interest, and Family Environment to Knowledge, Attitudes, and Perceptions of the Noble Values of Local Wisdom

The familiarity variable was significantly related to increased knowledge of noble values of local wisdom ($p = .032 < .05$; see Table 9). The correlation coefficient was .215, indicating a low-level relationship. The positive coefficient suggests that greater familiarity with manga comics is associated with knowledge of the noble values of local wisdom.

Table 9 Correlation Coefficients of Various Factors on Knowledge, Attitudes, and Perceptions of Noble Values of Local Wisdom

Variables	Knowledge		Perception	
	Correlation Coefficient	Sig. (2-tailed)	Correlation Coefficient	Sig. (2-tailed)
Familiarity	.215	.032*	-.162	.108
Interest	-.164	.104	.240	.017*
Family environment	.034	.703	.266	.008*

Note. $p < .05$ indicates statistical significance

Source: Processed Research Data, 2023

The variable most strongly associated with improved attitudes and perceptions of local wisdom was interest ($p = .017 < .05$). The correlation coefficient was .240, which indicates a low-level relationship. The positive coefficient shows that higher interest in the character education program corresponds with more favorable attitudes and perceptions of the noble values of local wisdom.

Spearman's rank analysis also indicated that the family environment significantly influenced perceptions of local wisdom ($p = .008 < .05$). The correlation coefficient was .266, also indicating a low-level relationship. The positive coefficient implies that stronger family support for character education is associated with higher the perception of noble values of local wisdom.

DISCUSSION

The treatment group that showed the greatest improvement after the intervention was the group exposed to Jabar Masagi comics with negative messages. Negative messages are often more prominent and controversial, which can attract adolescents, who are typically drawn to provocative content that challenges norms. Unlike positive messages that may appear conservative or cliché, negative message comics illustrate mistakes and their consequences, offering valuable lessons about decision-making and the impact of harmful actions. Because these messages are often realistic and relevant to teenagers' experiences, they are more likely to capture attention. Comics that portray complex social or moral issues can foster identification with the story and enhance comprehension. Therefore, Jabar Masagi comics with negative messages are an appropriate medium for character education targeting adolescents. These findings support previous research highlighting manga as an effective cultural medium for disseminating knowledge among students (Sakamoto et al., 2014). Similarly, Nasution et al. (2018) found that comics with positive or negative messages significantly improved student knowledge.

Comic-based projects also provide innovative opportunities for students to build understanding and meaningful connections. By creating and engaging with comics, students not only absorb content but also develop critical thinking and creativity (Morrison et al., 2002). Comics can simulate real-life situations (Mayo, 2011), encouraging students to apply theoretical knowledge of noble values in practical context. The effectiveness of comics in increasing knowledge underscores the importance of using visual and interactive media to enhance student engagement and understanding.

The significant improvement in perceptions among the treatment groups was largely due to the strong narratives, characters, and visual elements of the Jabar Masagi comics, which attracted attention and evoked emotions. Such features promoted openness to the conveyed messages and led to meaningful significant changes in perception. The comics presented messages clearly and persuasively, supported by relevant data and examples, thereby encouraging respondents to reconsider their views on the noble values of local wisdom.

In addition, by enabling students to empathize with the characters' emotions, comics can help them understand and experience the feelings portrayed in the story. This process may enhance their ability to empathize with others in real life (Mayo, 2011). The Jabar Masagi comics, particularly through the character of *Mundinglaya*, demonstrated effectiveness in fostering empathy and strengthening perceptions of the program's noble values. Furthermore, comics that highlight social issues can raise students' awareness of social problems and motivate them to take constructive action.

This finding contradicts previous research, which reported that both positive and negative message comics effectively improved student perceptions (Nasution et al., 2018). The Duncan test also indicated that positive message comics had greater effectiveness than negative ones in shaping perceptions. Such discrepancies may be explained by cultural context, age group, and media design.

Cultural relevance of learning media strongly influences student acceptance. Consequently, digital comics featuring local heroes may foster a deeper emotional connection than those with neutral or negative themes (Widyastutik et al., 2020). Adolescents in early secondary school are generally more responsive to positive reinforcement and may resist overly negative or fear-based messaging. Moreover, Mayer's (2009) multimedia learning theory emphasizes that visual design and emotional appeal are crucial to media effectiveness, favoring comics that evoke optimism or admiration over those that induce discomfort (Fahyuni & Fauji, 2017). Differences in participant characteristics, narrative tone, and visual appeal may therefore account for the variation in findings across studies.

Individuals who are more familiar with manga-style comics tend to possess greater knowledge of noble values rooted in local wisdom. This supports previous findings showing that familiarity—measured by the length of time individuals enjoy comics—significantly affects emotional recognition and, in turn, comprehension (Astiningrum & Prawitasari, 2015).

A strong interest in character education programs is also associated with more positive attitudes and perceptions of local wisdom values. This aligns with Sunarto (2020), who identified interest, originating from the actor factor, as a key determinant of perception. Similarly, Nasution et al. (2018) found that interest significantly influenced attitudes and perceptions regarding dengue prevention.

Finally, a supportive family environment strengthens students' perceptions of local wisdom values. This is consistent with findings showing that families who actively support dengue prevention efforts contribute to stronger perceptions of disease risk (Nasution et al., 2018).

CONCLUSION AND POLICY RECOMMENDATIONS

Jabar Masagi comics with negative messages significantly improved students' knowledge and perceptions of noble values ($p < .05$). By contrast, positive message comics improved knowledge but not perceptions ($0.06 > 0.05$). Improvements in knowledge and perception were also influenced by familiarity ($0.032 < 0.05$), interest ($0.017 < 0.05$), and supportive family environment ($0.008 < 0.05$). Student participation in the creation of Jabar Masagi comics further enhanced effectiveness by increasing understanding, fostering ownership, and developing creativity and skills.

Based on these findings, the West Java Provincial Government should integrate local wisdom-based comics, such as those derived from ancient Sundanese literature, into the Jabar Masagi program. Students should be involved not only as readers but also as creators through comic development projects in schools facilitated by teachers and creative partners. The dissemination of Jabar Masagi values through comics should be expanded in both curricular and extracurricular settings. This approach would promote deeper, contextualized internalization of positive values. Ultimately, comics can serve as relevant, participatory, and sustainable media for character education and youth development in West Java.

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