

The Effect of GEN-NIK (Marriage-Ready Generation) E-Comic-Based Educational Media on University Students' Perceptions of Marriage in Banyumas

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Abstract

The growing “marriage is scary” phenomenon in digital media has contributed to negative perceptions of marriage among university students, highlighting the need for engaging and contextual educational media that foster a more balanced understanding of marriage. This study aims to analyze the effect of GEN-NIK (*Generasi Siap Nikah*) e-comic-based marriage education on university students' perceptions of marriage. A quantitative approach with a pre-experimental one-group pretest–posttest design was employed. The study involved 147 unmarried university students aged 20–21 years, selected through purposive sampling from three higher education institutions in Banyumas. Data were collected using a marriage perception questionnaire adapted from the Marriage Perception Scale and analyzed using the Wilcoxon Signed Rank Test. The findings showed an increase in students' positive perceptions of marriage after the intervention, as reflected in the rise of the mean perception score from 75.25 to 82.95. Statistical analysis revealed a significant effect, $p < .001$, with a large effect size, $r = 0.79$. These findings indicate that GEN-NIK e-comic-based marriage education significantly improves university students'

perceptions of marriage. The study contributes to marriage education and youth development by demonstrating the potential of digital comic-based media as a communicative, contextual, and engaging educational tool. Its practical implications emphasize the importance of developing accessible digital learning media to strengthen marriage literacy, reduce negative misconceptions about marriage, and support marriage preparedness among university students.

Keywords: Marriage Perception; GEN-NIK E-Comic; Marriage Education; University Students; Marriage Literacy.

INTRODUCTION

Marriage is increasingly recognized as a fundamental social institution that functions not only as a legal bond between two individuals but also as an emotional, spiritual, and socio-cultural commitment aimed at establishing a harmonious family life. Within the Islamic perspective, marriage is regarded as a sacred form of worship that serves as a medium for maintaining morality, emotional stability, and social order. Marriage is expected to provide mutual affection, companionship, psychological security, and continuity of generations through a legally and religiously recognized union (Sekarayu et al., 2021). In this context, marriage is not merely interpreted as a personal milestone but also as an important institution that contributes to social cohesion and individual well-being.

However, contemporary social transformations have gradually altered young people's perceptions of marriage. The idea of marriage, which was traditionally associated with stability, commitment, and emotional fulfillment, is increasingly perceived as a source of uncertainty and anxiety among younger generations. This shift in perception is reflected in the growing popularity of the "Marriage is Scary" phenomenon, particularly among Generation Z, who actively discuss concerns regarding married life through social media platforms (Riswandi et al., 2025). Public discourse surrounding marriage has changed substantially, as digital narratives increasingly emphasize stories of marital conflict, domestic burdens, emotional distress, and failed relationships, thereby shaping pessimistic assumptions regarding long-term commitment (Nilam et al., 2025).

The phenomenon of "Marriage is Scary" has gained stronger visibility through social media exposure and digital interactions, which continuously amplify anxieties

associated with married life. Viral discussions, hashtags, and user-generated content depicting failed marriages, financial instability, domestic violence, emotional exhaustion, and unequal household responsibilities have contributed to the normalization of fear toward marriage, particularly among young women (Karimah, 2025). Such repeated exposure creates a cognitive environment in which marriage is increasingly framed as risky, restrictive, and emotionally demanding, rather than as a desirable life transition.

The emergence of negative perceptions toward marriage also coincides with broader demographic changes in Indonesia. National statistical reports indicate a gradual decline in marriage rates over recent years, accompanied by a simultaneous increase in divorce rates, suggesting changing attitudes toward commitment and family institutions (Badan Pusat Statistik, 2024). Continuous marital conflict, economic difficulties, abandonment, and domestic violence have become among the dominant causes of divorce, reinforcing pessimistic social narratives surrounding married life (Badan Pusat Statistik, 2024). These conditions contribute to the construction of collective fears, particularly among younger individuals who observe marital instability as a recurring social phenomenon.

Among Generation Z, marriage is increasingly no longer perceived as a mandatory life goal but rather as an optional choice that may be delayed or even avoided altogether. Online surveys reveal that many members of this generation prioritize self-development, career aspirations, financial stability, and personal freedom over marriage commitments (Muslimah et al., 2025). Similar tendencies are reflected in findings showing that marriage is frequently considered secondary compared with individual achievement and self-actualization, thereby demonstrating a shift in social values regarding family formation (Lestari et al., 2024).

At the same time, concerns regarding changing relational patterns among young people have become increasingly significant. Early sexual behavior among adolescents has demonstrated tendencies that indicate changing orientations toward intimacy and interpersonal relationships. Such conditions imply that emotional and relational fulfillment is increasingly sought outside formal marital institutions, resulting in declining urgency to enter marriage at a younger age (Johara, 2022). This transformation contributes to the growing uncertainty surrounding marital commitment because young adults may perceive

intimate relationships as achievable without legal or social marital arrangements (Hapsari, 2019).

From a psychological perspective, perceptions regarding marriage are formed through cognitive and social processes influenced by environmental stimuli, individual experiences, expectations, and surrounding narratives. Perception represents an interpretative process through which individuals organize and assign meaning to social realities encountered in everyday life (Nisa et al., 2023). Consequently, repeated exposure to negative discourse concerning marriage may shape unfavorable attitudes and expectations toward married life, particularly among university students who are entering the developmental stage associated with identity formation, relational exploration, and long-term life planning (Tewal et al., 2017).

University students represent an important population for understanding perceptions of marriage because they are positioned within late adolescence and early adulthood, phases characterized by increasing emotional maturity and future-oriented decision-making. During this developmental stage, individuals begin to formulate clearer expectations regarding relationships, careers, family life, and personal identity (Hapsari, 2019). Therefore, perceptions developed during this period are likely to influence future marital intentions and broader family-related decisions.

Considering these social realities, educational interventions become increasingly necessary to foster balanced and evidence-based understandings of marriage among young people. Educational approaches should not only convey information but also encourage critical reflection, emotional preparedness, and realistic expectations regarding marital life (Pratama et al., 2023). In this regard, educational media capable of engaging young audiences in accessible and attractive ways become particularly relevant for addressing misconceptions and anxieties related to marriage.

One educational medium that demonstrates considerable potential is comic-based learning media. Comics are widely recognized as educational tools because they combine visual representation and narrative storytelling, enabling audiences to absorb information more effectively and with greater emotional engagement (Ansari et al., 2020). Educational comics also facilitate message delivery in a manner that feels less instructional and more relatable, particularly for adolescents and university students who are accustomed to visual communication in digital environments (Mikamahuly & Fadieny, 2023). Furthermore,

comic narratives may influence awareness, attitudes, and behavioral understanding because stories and illustrations create emotional resonance that strengthens audience comprehension (Chattopadhyay, 2019).

Studies have further emphasized that comics can serve as effective educational interventions capable of improving understanding and shaping perspectives regarding health, sexuality, and marriage-related issues. Educational comic media have been found to significantly improve adolescents' understanding of reproductive health and the consequences of underage marriage, suggesting their effectiveness in influencing cognitive outcomes related to marital awareness (Safitri, 2023). Similar findings indicate that comic-based educational interventions contribute to improved knowledge regarding marriage readiness and reproductive preparation among adolescents, highlighting their pedagogical effectiveness compared with conventional educational materials (Sarliana et al., 2024).

Previous studies have consistently demonstrated the effectiveness of comic-based educational interventions in enhancing knowledge and influencing adolescents' understanding of marriage-related issues. Research examining health education through comic media found that comic-based interventions significantly improved adolescent girls' knowledge concerning the reproductive health impacts of underage marriage, emphasizing the effectiveness of visual narrative approaches in educational settings (Safitri, 2023). Similar evidence indicates that comic media positively contribute to adolescents' understanding of marriage age maturation by increasing educational engagement and strengthening information retention (Sarliana et al., 2024).

In addition, electronic comics have increasingly been utilized in educational interventions concerning sexuality and early marriage prevention. Research on the development of sexual education e-comics revealed that digital comic interventions effectively improved sexual knowledge while simultaneously reducing adolescents' intentions toward early marriage, indicating that visual educational narratives may shape both understanding and behavioral tendencies (Putri et al., 2025). Other studies similarly reported that e-comic interventions reduced adolescents' intentions to engage in early marriage by encouraging greater awareness regarding the social and psychological consequences associated with marital readiness (Putri et al., 2025).

Scholarly discussions surrounding the "Marriage is Scary" phenomenon further reveal that digital exposure influences young people's perceptions regarding marriage.

Media content emphasizing marital conflict, emotional insecurity, and economic instability has been shown to shape negative attitudes toward marriage among Generation Z, despite relatively limited explanatory power regarding overall attitudes (Mariska & Sumardijjati, 2025). Findings also indicate that many young people experience anxiety toward marriage due to uncertainty surrounding emotional stability, economic preparedness, and fear of losing personal freedom, thereby reinforcing stigma related to marital life (Azizah et al., 2025).

Although prior studies provide valuable insights regarding comic-based interventions and marriage-related attitudes, several important limitations remain evident. Existing studies largely focus on adolescents rather than university students, despite the latter representing a population entering late adolescence and emerging adulthood where perceptions of marriage begin to become increasingly stable and future-oriented (Hapsari, 2019). Furthermore, most existing studies predominantly assess educational outcomes in terms of knowledge acquisition, reproductive awareness, or intentions toward early marriage rather than broader perceptions regarding marriage as a life institution (Safitri, 2023). Consequently, current evidence remains insufficient in explaining how educational comic interventions may influence university students' perceptions toward marriage within contemporary socio-cultural contexts shaped by digital anxieties and the "Marriage is Scary" phenomenon (Riswandi et al., 2025).

The present study identifies a clear research gap in three interrelated dimensions. First, prior research predominantly investigates adolescents in middle developmental stages, whereas studies involving university students remain relatively limited despite their strategic developmental position concerning long-term relationship planning (Putri et al., 2025). Second, previous interventions generally focus on improving knowledge or reducing early marriage intentions, leaving broader psychological perceptions of marriage insufficiently explored (Sarliana et al., 2024). Third, limited empirical attention has been given to educational interventions designed specifically to respond to negative digital narratives concerning marriage, particularly within the context of the rapidly emerging "Marriage is Scary" phenomenon (Azizah et al., 2025).

In response to these limitations, this study positions itself as an effort to contribute to the expanding body of literature concerning marriage education among young adults through a preventive and educational approach. Rather than emphasizing fear-based

narratives or moral instruction alone, this study proposes educational engagement capable of fostering balanced perceptions regarding marriage by integrating accessible communication strategies through digital visual storytelling (Pratama et al., 2023).

The novelty of this research lies in several important aspects. First, unlike previous studies that primarily focus on adolescents and reproductive knowledge, this research specifically examines university students' perceptions of marriage as a multidimensional psychological and social construct (Nisa et al., 2023). Second, the study introduces an educational intervention through the GEN-NIK (Generasi Siap Nikah) E-comic, which is specifically designed to address misconceptions, fears, and anxieties emerging from the "Marriage is Scary" discourse among young people (Karimah, 2025). Third, rather than merely measuring cognitive improvement or behavioral intention, the present study evaluates changes in perception, thereby contributing to a broader understanding of how educational media shape attitudes and meaning-making processes concerning marriage (Tewal et al., 2017).

Theoretically, this study is grounded in perception theory, which explains that individuals construct meanings through processes of sensory reception, interpretation, and cognitive organization shaped by internal and external factors (Nisa et al., 2023). Perception formation is influenced by prior experiences, expectations, environmental contexts, and repeated exposure to social narratives, making media interventions particularly relevant for reshaping attitudes and interpretations regarding marriage (Walgito, 2004). In addition, educational theory supports the notion that learning media function not merely as information delivery tools but also as mechanisms for encouraging reflection, awareness, and behavioral orientation among learners (Wulandari, 2016).

The use of comics as educational media further strengthens the conceptual framework of this study because visual narratives possess the capacity to simplify complex information, stimulate emotional engagement, and encourage interpretative understanding among audiences (Ansari et al., 2020). Comic media are especially relevant for university students who are accustomed to digital communication and visual learning environments, allowing educational messages to be conveyed in ways that are more relatable, interactive, and psychologically acceptable (Geneviene & Harnoko, 2024).

Based on these considerations, this study focuses on analyzing the influence of the GEN-NIK E-comic educational intervention on university students' perceptions of

marriage within the context of contemporary social anxieties surrounding marital commitment. More specifically, the study seeks to examine students' perceptions before and after exposure to educational media while identifying whether comic-based interventions significantly influence how marriage is interpreted among university students. Ultimately, the study aims to contribute theoretically to educational and perception-related scholarship while simultaneously offering practical implications regarding innovative educational strategies for preparing young adults toward healthier, more balanced understandings of marriage.

METHODS

This study employed a quantitative research approach with an experimental orientation to examine the effect of educational media based on the GEN-NIK (Generasi Siap Nikah) E-comic on university students' perceptions of marriage. Quantitative research was selected because it enables the systematic measurement of relationships between variables through numerical data and statistical procedures, thereby allowing objective examination of intervention outcomes (Lusiana et al., 2022). Specifically, this research adopted a pre-experimental design using a one-group pretest–posttest model, which was considered appropriate for measuring changes in participants' perceptions before and after exposure to the educational intervention (Sugiyono, 2019). The design involved one experimental group without a comparison or control group, in which participants were assessed prior to intervention implementation and reassessed after treatment to determine whether measurable changes occurred in their perceptions of marriage.

The one-group pretest–posttest design allowed the researchers to compare participants' conditions before and after intervention exposure through repeated measurements. In this design, an initial observation (O_1) was conducted through a pretest to assess baseline perceptions regarding marriage, followed by an intervention in the form of GEN-NIK E-comic exposure (X), and concluded with a posttest (O_2) to evaluate perceptual changes after educational engagement (William & Hita, 2019). This approach was selected because it facilitates examination of intervention effects in natural educational settings while remaining feasible for implementation among university student populations. Although the design does not involve random assignment or a control group, it provides

valuable evidence regarding changes that emerge after educational treatment within a specified context (Sugiyono, 2019).

The study was conducted in three higher education institutions located in Banyumas Regency, namely Universitas Muhammadiyah Purwokerto, Universitas Jenderal Soedirman, and Universitas Islam Negeri Prof. K.H. Saifuddin Zuhri. Data collection was implemented after research ethics approval had been obtained and commenced in March 2026. The duration of the study encompassed preparation, intervention, questionnaire administration, and data processing stages conducted throughout the research implementation period. Data collection activities were organized offline in classroom settings after lecture sessions to minimize disruption to students' academic schedules and to ensure participants could complete all research stages under standardized conditions.

The population of this study comprised unmarried university students enrolled in selected study programs within the three institutions, totaling 1,914 individuals. The target population specifically included students enrolled in the Bachelor of Midwifery Program at Universitas Muhammadiyah Purwokerto, the Biology Program at Universitas Jenderal Soedirman, and the Mathematics Education Program at Universitas Islam Negeri Prof. K.H. Saifuddin Zuhri. These participants were selected because university students represent late adolescents transitioning toward adulthood, a developmental phase in which perceptions regarding relationships, marriage, and future family life become increasingly salient.

The sample size consisted of 147 respondents determined through the Sopiudin comparative paired-categorical formula while considering an anticipated dropout rate of 10%. Sampling was conducted using a nonprobability purposive sampling technique, whereby participants were selected based on predefined inclusion and exclusion criteria considered relevant to the objectives of the study (Sugiyono, 2019). Inclusion criteria consisted of active university students aged between 20 and 21 years, unmarried status, willingness to participate voluntarily, and completion of all research stages, including pretest, intervention exposure, and posttest procedures. Participants who failed to complete one of the research stages, withdrew participation, or incompletely completed the questionnaires were excluded from the study.

The study involved two principal variables, namely the educational E-comic intervention as the independent variable and students' perceptions of marriage as the

dependent variable. The independent variable referred to the GEN-NIK (Generasi Siap Nikah) educational E-comic, which functioned as an intervention medium containing educational materials concerning marriage readiness, healthy marriage, marital conflict risks, and domestic violence prevention. Meanwhile, the dependent variable referred to university students' perceptions of marriage, conceptualized as students' evaluations, understandings, and viewpoints concerning marital life. These perceptions were theoretically operationalized through indicators adapted from the Marriage Perception Scale (MPS), encompassing the meaning and value of marriage, communication and emotional closeness, commitment and relationship security, equality and social responsibility, and financial aspects of marriage (Anshu et al., 2013). These indicators were selected because they align with the study objective of evaluating changes in students' perceptions following educational intervention.

Data collection relied primarily on questionnaire-based instruments designed to quantitatively assess participants' perceptions before and after intervention exposure. The principal instrument consisted of a 35-item questionnaire adapted from the Marriage Perception Scale (MPS), developed to assess unmarried adolescents' perceptions regarding marriage (Anshu et al., 2013). The questionnaire incorporated both favorable and unfavorable statements distributed across five theoretical dimensions of marital perception. Positive perception scores were categorized based on median values, whereas lower scores reflected less favorable perceptions toward marriage.

In addition to the perception questionnaire, the study also employed an expert evaluation instrument to assess the feasibility of the GEN-NIK E-comic prior to implementation. The evaluation process involved assessment of design quality and educational content through structured evaluation sheets. Visual assessment indicators included writing presentation, image display, media functionality, attractiveness, and overall usability of the comic as an educational tool. Content evaluation focused on material appropriateness, organization and presentation, as well as language clarity and communicative dialogue adjusted to university student characteristics. These procedures ensured that the intervention media met educational and practical standards before implementation in the study setting.

Instrument validation and reliability testing were conducted before the main research implementation to ensure measurement accuracy and consistency. Validity testing

was performed among respondents outside the research sample from selected study programs at Universitas Muhammadiyah Purwokerto, Universitas Jenderal Soedirman, and Universitas Islam Negeri Prof. K.H. Saifuddin Zuhri using Pearson Product Moment correlation analysis. Instrument items were considered valid when the calculated correlation coefficient exceeded the critical table value ($r\text{-count} \geq r\text{-table}$). The results demonstrated that most questionnaire items met validity criteria, although several items did not reach the required threshold and were therefore excluded from further measurement procedures.

Reliability testing was subsequently conducted using Cronbach's Alpha because the instrument employed Likert-scale responses. An instrument was considered reliable when Cronbach's Alpha exceeded the minimum threshold of 0.70, indicating satisfactory internal consistency. The reliability test produced a Cronbach's Alpha value of 0.999 across 32 retained items, indicating excellent reliability and consistency of the instrument for measuring marriage perception variables.

The data collection procedure was conducted systematically through offline classroom-based sessions after academic hours. Participants first completed a pretest questionnaire to assess initial perceptions of marriage. Following the pretest, respondents were provided with the GEN-NIK E-comic and instructed to read the material for approximately 15 minutes. To strengthen material comprehension, participants received a second reading session on the following day with the same duration. After completion of the intervention, respondents completed the posttest questionnaire to evaluate perceptual changes. To ensure participant engagement, respondents were additionally asked to summarize the comic content briefly after reading sessions.

Data analysis consisted of univariate and bivariate analyses. Univariate analysis was conducted to describe participant characteristics and research variables descriptively, whereas bivariate analysis was performed to examine the influence of the educational intervention on students' perceptions of marriage. Since the study compared paired pretest and posttest data from the same respondents, statistical analysis employed the Wilcoxon signed-rank test using SPSS software to determine whether significant differences existed following intervention exposure.

RESULTS

Univariate Analysis

1. Respondent Characteristics

Univariate analysis was conducted to describe the frequency distribution of respondents based on age, gender, and study program.

Table 1. Respondent Characteristics

No	Category	Frequency (n)	Percentage (%)
1.	Age		
	20 years	74	50.3
	21 years	73	49.7
	Amount	147	100
2.	Gender		
	Man	20	13.6
	Woman	127	86.4
	Amount	147	100
3.	Study program		
	Bachelor of Midwifery	51	34.7
	Biology	47	32.0
	Mathematics Education	49	33.3
	Amount	147	100

source: Compiled by the researcher (2026)

Table 1 respondent characteristics shows based on age, gender, and study program. Based on age, most respondents were 20 years old (74; 50.3%), while 73 respondents (49.7%) were 21 years old, indicating a relatively balanced age distribution. Based on gender, most respondents were female (127; 86.4%), while male respondents accounted for 20 (13.6%). This may be influenced by the dominance of female students in certain study programs, particularly Midwifery. Based on study program, the distribution of respondents was relatively balanced, consisting of Bachelor of Midwifery students (51; 34.7%), Mathematics Education students (49; 33.3%), and Biology students (47; 32.0%). This distribution indicates that respondents came from diverse academic backgrounds.

2. Distribution of Marriage Perceptions Before Comic-Based Education

Table 1 Distribution of Marriage Perceptions Before Comic-Based Education

Perception Category	Frequency (n)	Percentage (%)
Negative	79	53.7
Positive	68	46.3
Total	147	100

source: Compiled by the researcher (2026)

Table 2, Distribution of Perceptions about Marriage Before Educational Intervention Using Comic Media, shows that most respondents had negative perceptions of marriage before receiving education through comic media, totaling 79 respondents (53.7%), while 68 respondents (46.3%) had positive perceptions. These findings indicate that respondents' perceptions tended to be negative prior to the intervention.

3. Distribution of Marriage Perceptions After Comic-Based Education

Table 2 Distribution of Marriage Perceptions After Comic-Based Education

Perception Category	Frequency (n)	Percentage (%)
Negative	19	12.9
Positive	128	87.1
Total	147	100

source: Compiled by the researcher (2026)

Table 3, Marriage Perceptions After Comic-Based Education, shows that most respondents had positive perceptions of marriage after receiving education through comic media, totaling 128 respondents (87.1%), while 19 respondents (12.9%) had negative perceptions. These findings indicate a shift toward more positive perceptions after the intervention.

Table 4. Perception Scores Before and After Comic-Based Education

Variables	N	Mean	Elementary School	Min	Max
Perception					
Before	147	75.25	6.21	50	91.4
After	147	82.95	6.14	61	92.5

source: Compiled by the researcher (2026)

Table 4, Perception Scores Before and After Comic-Based Education, shows that the mean perception score increased from 75.25 before the intervention to 82.95 after the intervention. The standard deviation slightly decreased from 6.21 to 6.14, with scores

ranging from 50–91.4 before and 61–92.5 after the intervention. These findings indicate an improvement in respondents’ perceptions after receiving education through comic media.

Bivariate Analysis

Table 3 Wilcoxon Test Results of Marriage Perceptions

Perception	Pretest		Posttest		Z	P Value
	N	%	N	%		
Negative	79	53.7	19	12.9	-9.644 ^b	<0.001
Positive	68	46.3	128	87.1		
Total	147	100	147	100		

source: Compiled by the researcher (2026)

Table 5, Wilcoxon Test Results of Marriage Perceptions, shows a significant difference in students’ perceptions of marriage before and after comic-based education. The Wilcoxon Signed Rank Test produced a p-value of <0.001 ($p < 0.05$) with a Z value of -9.644, indicating that the intervention significantly influenced respondents’ perceptions of marriage. The effect size analysis showed an r value of 0.79, indicating a very large effect. This finding suggests that education using comic media had a strong influence on improving students’ perceptions of marriage.

DISCUSSION

The findings of this study indicate that marriage education delivered through the GEN-NIK (Generasi Siap Nikah) e-comic significantly influenced university students’ perceptions of marriage in Banyumas. Prior to the intervention, respondents’ perceptions tended to be relatively negative, whereas after educational exposure through digital comic media, perceptions shifted toward a more positive orientation. This finding demonstrates that educational interventions based on visual narratives are not merely instruments for transferring information but also function as cognitive and affective mechanisms capable of reshaping attitudes, understanding, and evaluative judgments toward social institutions such as marriage. In this context, the observed changes cannot be interpreted solely as statistical differences between pretest and posttest measurements but must also be understood as evidence of the role of educational media in facilitating cognitive restructuring regarding marriage-related perspectives.

The respondent characteristics revealed that most participants were aged between 20 and 21 years, representing the developmental stage of late adolescence transitioning into early adulthood, while female students constituted the majority of participants. Such demographic characteristics are relevant because perception formation concerning marriage is strongly influenced by psychosocial maturity, life experiences, and cognitive readiness. At this developmental stage, individuals generally begin to formulate long-term plans, negotiate identity formation, and develop greater awareness regarding intimate relationships and family life. Consequently, marriage-related issues become increasingly relevant and psychologically meaningful. Previous findings suggest that age significantly contributes to adolescents' perceptions of marriage, in which greater maturity tends to correspond with more rational and realistic views regarding marital life (Nurhutami & Anwar, 2022). Therefore, the respondents involved in this study may be considered cognitively prepared to receive and critically process educational content related to marriage, increasing the potential effectiveness of educational interventions delivered through digital media.

Before the educational intervention, more than half of respondents demonstrated negative perceptions regarding marriage, indicating that students initially possessed insufficient or less favorable understandings of marital relationships. Such findings suggest that perceptions of marriage among contemporary university students may not necessarily emerge from comprehensive knowledge or balanced information but are often shaped by fragmented experiences, social narratives, and mediated representations. Within the current digital ecosystem, marriage is frequently portrayed through emotionally charged narratives emphasizing marital conflicts, domestic violence, infidelity, economic burdens, and emotional dissatisfaction. Consequently, these representations may cultivate fear, uncertainty, or skepticism toward marital commitment among young adults.

The prevalence of negative pre-intervention perceptions may also be associated with the widespread emergence of the "marriage is scary" discourse among younger generations. This phenomenon reflects broader sociocultural transformations in which marriage is increasingly evaluated not merely as a normative social expectation but as an institution requiring emotional, financial, and psychological preparedness. Several studies have shown that social media narratives significantly contribute to shaping public opinions concerning marriage among Generation Z, particularly among women who are more frequently exposed to emotional storytelling regarding marital dissatisfaction and gender inequality within domestic life (Lestari et al., 2024; Mariska & Sumardijjati, 2025).

Accordingly, respondents' perceptions in this study should not be interpreted as isolated personal attitudes but rather as products of broader communicative environments influencing how young individuals conceptualize marriage.

Theoretically, perception is understood as an internal psychological process involving interpretation, selection, and organization of information received through individual experiences and environmental stimuli. Perceptions are not static entities but are continuously reconstructed through social interaction, knowledge acquisition, and emotional responses (Syahrial et al., 2025; Walgito, 2004). In relation to marriage, individuals who lack access to accurate educational information may develop perceptions dominated by assumptions, fears, or misinformation derived from anecdotal experiences and social media narratives. This theoretical understanding provides an important framework for interpreting why respondents initially exhibited relatively negative attitudes toward marriage and why educational interventions became necessary.

The substantial increase in positive perceptions after educational exposure illustrates the transformative potential of narrative-based learning media. Following intervention, positive perceptions increased considerably, while negative perceptions decreased substantially, accompanied by an increase in mean perception scores. Such improvements suggest that the e-comic successfully functioned as a persuasive educational medium capable of influencing both cognitive understanding and evaluative orientation toward marriage. More importantly, these findings imply that educational interventions may contribute to reducing misconceptions and emotional resistance associated with marriage among university students.

The effectiveness of e-comic media can be understood through its pedagogical characteristics. Unlike conventional educational approaches that rely heavily on textual explanations or didactic communication, e-comics integrate visual storytelling, narrative sequencing, and contextualized scenarios that are more relatable to younger audiences. Students are not only exposed to abstract explanations about marriage but are also invited to engage emotionally and cognitively with storylines reflecting realistic situations, dilemmas, and consequences surrounding marital life. As a result, learning becomes more contextual, memorable, and emotionally engaging.

The present findings are consistent with prior studies demonstrating the effectiveness of comic-based educational interventions in improving knowledge, attitudes,

and behavioral understanding. Karyati and Nazarena (2024), for example, found that digital comics significantly improved adolescents' nutritional knowledge, attitudes, and preventive actions through attractive and comprehensible educational delivery. Similarly, Sarliana et al. (2024) reported that comic-based educational interventions significantly increased adolescents' knowledge concerning marriage age maturation, suggesting that visually integrated educational media possess strong persuasive and educational potential. These studies collectively support the argument that educational comics are not merely supplementary learning materials but represent innovative pedagogical strategies capable of facilitating meaningful behavioral and perceptual change.

In the context of this study, the effectiveness of GEN-NIK e-comics may also be explained through media suitability. University students, particularly those within late adolescence and early adulthood, belong to a generation accustomed to visual, fast-paced, and digitally mediated information environments. Traditional educational methods relying exclusively on lectures or textual materials may not sufficiently attract sustained attention or emotional engagement among contemporary students. E-comics, conversely, align with students' media consumption preferences by combining illustrations, concise narratives, and emotionally resonant content into digestible formats. Thus, educational effectiveness may partially derive from the compatibility between communication medium and audience characteristics.

Nevertheless, despite the significant improvement observed after intervention, a smaller proportion of respondents continued to maintain negative perceptions of marriage. This finding is analytically important because it suggests that perception change is neither universal nor immediate. Educational interventions alone may not entirely overcome deeply internalized beliefs, emotional concerns, or sociocultural experiences influencing marriage-related attitudes. Some respondents may remain skeptical due to personal experiences, familial observations, prior exposure to negative relational environments, or persistent anxieties concerning economic responsibilities and emotional commitments associated with marriage.

Gender composition may also explain why negative perceptions persisted among some respondents. Female students constituted the majority of participants, and women may be more likely to evaluate marriage through emotional, relational, and safety-oriented perspectives. Exposure to narratives concerning domestic violence, emotional neglect,

unequal gender roles, or marital dissatisfaction may increase caution and fear regarding future marital experiences (Lestari et al., 2024). Conversely, male respondents may experience concerns associated with financial readiness, employment stability, and societal expectations concerning breadwinning responsibilities. Therefore, perception formation surrounding marriage appears multidimensional, influenced by emotional, social, economic, and gendered considerations.

Furthermore, disciplinary background may contribute to perceptual variation among respondents. Students enrolled in different academic programs encounter distinct intellectual environments and socialization experiences that potentially influence how marriage is understood and interpreted. Students from health-related disciplines such as midwifery may possess stronger familiarity with reproductive health, family planning, and maternal well-being, enabling more informed understandings of marriage-related readiness. By contrast, students from scientific or mathematical disciplines may rely on alternative interpretative frameworks shaped by different academic cultures and experiences. Consequently, disciplinary diversity may explain why educational impacts were not entirely homogeneous across respondents.

Collectively, these findings suggest that educational interventions concerning marriage should not merely focus on information transmission but should also address emotional, psychological, and sociocultural dimensions influencing perception formation. Educational programs capable of integrating relatable narratives, evidence-based information, and emotional resonance are more likely to generate meaningful perceptual changes among university students. Therefore, the GEN-NIK e-comic may be understood not simply as an educational tool but as an intervention facilitating reflective engagement with marriage as a complex social institution shaped by readiness, responsibility, and informed understanding.

The statistical analysis further strengthens the interpretation that the educational intervention exerted a substantial influence on students' perceptions of marriage. The Wilcoxon Signed Rank Test demonstrated a statistically significant difference between pretest and posttest scores, indicating that educational exposure through the GEN-NIK e-comic meaningfully altered respondents' perspectives after intervention. Importantly, statistical significance in this context should not merely be interpreted as evidence of numerical difference but rather as an indication that the observed perceptual change was

unlikely to occur by chance. The increase in average perception scores after intervention suggests that respondents experienced a cognitive and evaluative shift, in which marriage was increasingly interpreted through more informed, balanced, and constructive perspectives rather than through fear-based assumptions or socially reproduced anxieties.

A deeper analytical interpretation emerges from the calculated effect size, which demonstrated a very strong magnitude of intervention effect ($r \approx 0.79$). Within behavioral and educational research, effect size is crucial because it illustrates not only whether change occurred but also how meaningful that change was in practical terms. An effect size exceeding 0.50 generally indicates a large effect, suggesting that educational interventions meaningfully influenced respondents' perceptions rather than generating superficial or temporary improvements. Therefore, the educational impact of the GEN-NIK e-comic should be interpreted as substantively significant, demonstrating that visually mediated educational interventions possess considerable persuasive and transformative potential in shaping university students' attitudes toward marriage.

The directionality of statistical change also deserves attention. The negative Z value observed in the Wilcoxon analysis indicates that posttest scores consistently exceeded pretest measurements, signifying a positive trend in respondents' evaluative orientations toward marriage. Such consistency suggests that perception change occurred systematically rather than sporadically across respondents. This finding strengthens the assumption that educational media emphasizing contextual narratives, emotional relevance, and accessible explanations may successfully reduce misconceptions surrounding marriage and encourage more realistic understandings of marital readiness and responsibility.

The findings align with prior intervention-based studies demonstrating the effectiveness of e-comic educational media in modifying attitudes, knowledge, and behavioral intentions. Putri, Dewantari, Rizkinalbarokah, et al. (2025) reported significant differences between pretest and posttest measurements after implementing educational comic interventions aimed at preventing early marriage, indicating that visual narrative media may effectively influence adolescents' perceptions and behavioral orientations. Likewise, Sarliana et al. (2024) found that educational comic interventions significantly improved adolescents' understanding of marriage age maturation, reinforcing the educational relevance of comics in reproductive and family-related literacy. These consistencies indicate that the present study not only supports previous findings but also

extends existing evidence by demonstrating the effectiveness of e-comics specifically in shaping university students' marriage perceptions rather than solely increasing factual knowledge.

In addition, this study contributes to expanding scholarly discussions surrounding the “marriage is scary” phenomenon among younger generations. Previous studies primarily examined the phenomenon descriptively by emphasizing social anxieties, gender-based concerns, or the influence of social media discourse on Generation Z's marriage decisions (Lestari et al., 2024; Azizah et al., 2025; Muslimah et al., 2025). However, empirical intervention-based evidence demonstrating how such perceptions may be altered through educational strategies remains relatively limited. Accordingly, this study contributes to the literature by illustrating that negative narratives concerning marriage are neither fixed nor irreversible; rather, they may be moderated through structured, accessible, and engaging educational interventions that encourage more balanced interpretations of marital life.

From a theoretical perspective, this study contributes to strengthening perception theory by demonstrating that perception formation remains dynamic and responsive to educational stimuli. Perceptions are continuously reconstructed through interactions among knowledge, emotional responses, experiences, and social environments (Walgito, 2004; Syahrial et al., 2025). The positive changes observed after intervention suggest that educational media can function as cognitive mediators facilitating reinterpretation processes, in which respondents reassess previously internalized assumptions about marriage and replace them with more informed understandings. Consequently, this study supports theoretical assumptions that perception change may be achieved through intentional educational exposure, particularly when information delivery aligns with audience characteristics and communication preferences.

The present study also contributes methodologically by demonstrating the relevance of digital educational comics as intervention instruments within educational and health-related research. Compared with traditional educational strategies, e-comics combine informational clarity with emotional engagement, thereby increasing receptiveness among younger audiences. Narrative sequencing, visual symbolism, and contextual storytelling enhance message retention and reduce educational resistance. This argument is consistent with prior analyses emphasizing that comics possess substantial communicative value

because they integrate visual and textual elements into meaningful representations that facilitate comprehension and reflective engagement (Rande et al., 2024; Wibowo & Caroline, 2021). Therefore, the findings suggest that e-comics should not merely be considered supplementary media but rather evidence-informed educational instruments capable of supporting preventive, developmental, and health-promotion objectives.

Practically, the findings possess implications for higher education institutions, educators, health professionals, and policymakers. Universities may consider integrating marriage literacy or family preparedness education within student development initiatives, particularly during late adolescence and early adulthood when students increasingly contemplate future life trajectories. Educational interventions addressing marriage should move beyond moralistic or prescriptive approaches and instead encourage critical reflection, emotional preparedness, communication competence, and realistic understanding concerning marital responsibilities. Since university students frequently rely on digital media for information acquisition, educational approaches utilizing e-comics may improve engagement and educational accessibility.

For health professionals, particularly those involved in reproductive health promotion and premarital counseling, the findings suggest opportunities to employ innovative educational media that are both informative and engaging. Marriage readiness is closely associated with reproductive health awareness, emotional maturity, and interpersonal responsibility; therefore, preventive educational efforts delivered through accessible digital formats may contribute to improving psychosocial preparedness among adolescents and young adults. Previous studies similarly indicate that educational communication becomes more effective when information is contextualized through relatable narratives and audience-centered media design (Karyati & Nazarena, 2024; Safitri, 2023).

Policy implications also emerge from these findings. Public discourse concerning marriage among younger generations increasingly reflects skepticism, postponement, and emotional uncertainty influenced by digital narratives. Rather than dismissing these concerns as irrational or culturally deviant, policymakers and educational institutions should recognize them as expressions of changing sociocultural realities requiring constructive responses. Educational interventions such as the GEN-NIK e-comic may serve as preventive strategies supporting marriage preparedness programs by providing

evidence-based, psychologically sensitive, and culturally relevant information to young adults before marital decision-making occurs.

Despite these contributions, several limitations should be acknowledged. First, respondents were limited to students aged 20–21 years, restricting broader generalization across age groups and educational contexts. Students outside this developmental stage may demonstrate different emotional maturity levels, relational experiences, and interpretative frameworks influencing marriage perceptions. Therefore, findings should be interpreted cautiously and not automatically generalized to broader university populations or non-student youth populations.

Second, although respondents originated from multiple academic disciplines, disciplinary differences were not analyzed comparatively. Consequently, the present study cannot fully explain whether educational effectiveness varied according to academic background, disciplinary culture, or prior knowledge exposure. Future studies may benefit from comparative analyses exploring how students from different academic domains construct meanings concerning marriage and respond to educational interventions differently. Third, intervention duration remained relatively limited, involving only two educational sessions conducted within short timeframes. While short-term improvements were evident, the study cannot determine whether perceptual changes remain stable over longer periods or diminish after intervention effects fade. Longitudinal research employing delayed posttests may therefore provide stronger evidence regarding educational sustainability and long-term behavioral implications.

Nevertheless, despite these limitations, the study demonstrates meaningful originality and contribution. Unlike previous studies primarily emphasizing marriage intention, reproductive knowledge, or descriptive analyses of negative marriage narratives, this research specifically investigated the effectiveness of a contextualized educational intervention in reshaping university students' perceptions regarding marriage through a digital comic platform. The combination of significant statistical outcomes, strong effect size, and theoretically informed interpretation highlights the importance of integrating educational innovation with psychosocial understanding in addressing contemporary anxieties surrounding marriage among younger generations. Thus, the present study reinforces the argument that educational media designed according to audience

characteristics may substantially contribute to strengthening marriage literacy, psychological preparedness, and informed decision-making among university students.

CONCLUSION

This study demonstrates that marriage education delivered through the GEN-NIK (Generasi Siap Nikah) e-comic significantly improved university students' perceptions of marriage toward a more positive orientation. Prior to the intervention, most participants exhibited relatively negative perceptions of marriage; however, post-intervention findings indicated a substantial increase in positive perceptions accompanied by improved mean perception scores. Statistical analysis confirmed a significant difference between pre- and post-intervention conditions, indicating that the study objective of examining the effect of e-comic-based educational media on students' perceptions of marriage was successfully achieved. Accordingly, the findings provide evidence that visual-narrative educational media can effectively enhance students' understanding and shape more constructive perceptions of marriage.

Theoretically, this study contributes to the growing body of knowledge regarding the effectiveness of digital educational media in influencing individual perceptions, particularly among late adolescents and emerging adults in higher education. Practically, the findings highlight the potential of e-comics as an engaging, communicative, and accessible educational approach for delivering information related to marital readiness. The novelty of this research lies in the application of the GEN-NIK e-comic as a marriage education medium among university students from diverse academic backgrounds in Banyumas, an area that remains relatively underexplored in previous studies. The implications of this study suggest that higher education institutions and health professionals may optimize digital educational media to strengthen students' literacy and preparedness for healthy and responsible marital life. Nevertheless, limitations related to respondent age range, disciplinary variation, and the relatively short intervention period should be acknowledged. Future studies are recommended to involve broader populations, adopt longitudinal or comparative approaches, and explore additional educational media to provide more comprehensive insights into the development of marriage perceptions and readiness among university students.

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