



The Effect of Exposure to Short Video Content on the Complexity of Adolescents' Spoken Sentences

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Article Information	Abstract
Submitted March 18, 2026 Revised April 01, 2026 Accepted June 20, 2026	Background: The rapid growth of short-form video platforms like TikTok, Instagram Reels, and YouTube Shorts has transformed adolescent media consumption patterns. While previous research has primarily examined the effects of short-form video exposure on attention, memory, and academic achievement, research exploring its impact on the structural characteristics of spoken language is limited. Objective: This study aims to investigate the effect of exposure to short videos on the complexity of adolescents' spoken sentences. Method: A quantitative explanatory approach with a cross-sectional survey design was used. This study involved 312 Indonesian teenagers aged 15–24 who actively consume short video content. Participants were selected using purposive sampling. Data were collected through a structured questionnaire measuring Short Video Exposure and Spoken Sentence Complexity. The instrument demonstrated satisfactory validity and reliability. Data were analyzed using descriptive statistics, Pearson correlation analysis, and simple linear regression with IBM SPSS Statistics Version 27. Results: Findings revealed a significant negative relationship between exposure to short videos and spoken sentence complexity ($r = -.467$, $p < .001$). Regression analysis showed that exposure to short videos significantly predicted spoken sentence complexity ($\beta = -.431$, $t = -8.642$, $p < .001$). The model explained 21.8% of the variance in spoken sentence complexity ($R^2 = .218$), indicating that higher exposure to short videos was associated with shorter utterances, reduced syntactic variation, fewer subordinate clauses, and less elaborate idea development. Conclusion: Exposure to short-duration videos had a significant negative effect on adolescents' spoken sentence complexity. These findings support Information Processing Theory, Cognitive Load Theory, and Language Production Theory, which suggest that intensive exposure to rapidly changing audiovisual content can affect linguistic planning and syntactic organization during speech production. Encouraging balanced digital media consumption and strengthening oral language development activities are recommended to support adolescents' communication skills in the digital age.

INTRODUCTION

The rapid rise of short-form video (SFV) platforms has fundamentally changed the communication ecosystem of young people. Platforms like TikTok, Instagram Reels, and YouTube Shorts have become dominant sources of entertainment, information, and social interaction as they deliver a continuous stream of algorithmically personalized audiovisual content within seconds (Gowenlock et al., 2024; Head Robert, 2025). Unlike conventional digital media, short video platforms use infinite scrolling, automatic recommendations, and short but highly stimulating content that encourage users to consume large amounts of information in a relatively short time. Recent reports indicate that teenagers spend between one and three hours daily watching short videos, with Chinese national data even recording an average of 2.5 hours per day among teenagers (China Internet Network Information Center, 2024, in (Guo & Chai, 2024; Q. Wang et al., 2025) while another study found that more than half of teenage respondents spent more than one hour per day on short video platforms making these platforms one of the most influential components of contemporary digital culture (Al-Leimon et al., 2025).

Consequently, concerns have arisen about how repeated exposure to rapidly changing digital stimuli may reshape cognitive processes and language behavior outside the digital environment (Al-Leimon et al., 2025). Language production, especially spoken language, relies heavily on cognitive processes involving attention, working memory, lexical retrieval, and syntactic planning. During conversation, speakers continually organize ideas into grammatically structured utterances while simultaneously monitoring linguistic accuracy and communicative effectiveness. One important indicator of oral language proficiency is spoken sentence complexity, which reflects an individual's ability to construct syntactically complex utterances through the use of subordinate clauses, diverse sentence structures, longer average utterance length, and coherent expansion of ideas (Nie, 2025; Toth et al., 2026). Higher sentence complexity indicates more sophisticated linguistic processing, whereas reduced complexity often reflects simplified language production or limited cognitive resources allocated during utterance planning. Therefore, spoken sentence complexity has become an important construct in psycholinguistics, applied linguistics, and communication studies because it represents linguistic competence and cognitive processing efficiency (Bhargava, 2023; Lora et al., 2025; Yan et al., 2023).

From a cognitive perspective, the design characteristics of short video platforms can influence the complexity of spoken sentences through repeated exposure to fragmented and rapidly changing information. Every few seconds, users encounter new visual scenes, different speakers, changing topics, background music, subtitles, and various audiovisual cues that require constant attention shifts. Such media environments encourage rapid information processing rather than sustained cognitive elaboration. According to Information Processing Theory, human cognitive resources are limited, requiring selective attention and efficient encoding before information can be transformed into meaningful, long-term knowledge. Constant disruptions to attentional focus may reduce opportunities for in-depth linguistic processing, potentially impacting how adolescents organize and produce spoken language in everyday communication (Agmon et al., 2024; Al-Leimon et al., 2025; Rubinstein et al., 2001).

The assumptions of Cognitive Load Theory provide an additional explanation for this phenomenon. Sweller argues that working memory has a limited processing capacity, and excessive multimedia stimulation increases unnecessary cognitive load, thereby reducing the cognitive resources available for higher-level linguistic processing (Sweller, 1988). The short video platform presents a highly dynamic combination of moving images, spoken narration, music, text, emojis, and visual effects all at once (Asma & Dallel, 2020; Lalor & Guo, 2022; W, 2017). While such multimedia environments successfully capture attention and increase engagement, they may also encourage cognitive efficiency at the expense of syntactic elaboration. Adolescents who repeatedly consume rapidly changing audiovisual information may gradually become accustomed to processing information in shorter cognitive segments, potentially transferring this habit to their spontaneous spoken language (Mayer & Johnson, 2008; Sanetullaev, 2026).

The relationship between digital media exposure and language development has attracted increasing academic attention over the past decade. Previous studies have reported that intensive consumption of short videos is associated with changes in attention regulation, working memory, prospective memory, academic performance, and cognitive function among adolescents (Guo & Chai, 2024; Jindal et al., 2025). Other investigations have shown that social media environments influence communication styles, discourse organization, vocabulary choices, and verbal interaction patterns. In educational contexts, short videos have even been found to improve pronunciation, speaking confidence, and learner engagement when intentionally integrated into language instruction (Chiossi et al., 2023; Siregar et al., 2025; Sulistiani et al., 2025). These findings indicate that the digital media environment has considerable potential to shape language behavior (Guo & Chai, 2024; Salazar-Rosas et al., 2023).

Despite this progress, the existing literature remains limited in several important respects. First, most previous studies have focused on educational outcomes, digital marketing, psychological well-being, social engagement, or communication competence rather than examining the structural characteristics of spoken language itself. Language is generally assessed through broad indicators such as speaking confidence, communication effectiveness, or verbal fluency, while the complexity of syntactic production has received relatively little empirical attention.

Second, research on short-form video platforms has largely examined cognitive outcomes such as attention span, memory performance, digital addiction, or academic achievement. While these variables are theoretically related to language production, they do not directly explain whether intensive exposure to algorithmically curated audiovisual content affects adolescents' ability to construct complex spoken sentences. Spoken sentence complexity is a more sensitive linguistic indicator because it captures the interaction between cognitive processing, grammatical competence, and discourse organization during natural communication.

Third, most previous research has analyzed TikTok as a primarily representative short-form video platform, yet teens are increasingly consuming content across multiple platforms, including Instagram Reels and YouTube Shorts. Because recommendation algorithms and interface designs share similar characteristics across these platforms including endless scrolling, personalized content delivery, rapid video transitions, and continuous audiovisual stimulation cumulative exposure to the short-form video ecosystem merits broader

investigation. Therefore, focusing on only one platform may underestimate the broader linguistic implications of contemporary digital media consumption.

Furthermore, previous research has largely relied on psychological frameworks such as digital addiction, media dependency, or social comparison theory. Relatively few studies have integrated psycholinguistic perspectives to explain how repeated digital media exposure can affect syntactic production during spontaneous conversation. Integrating Information Processing Theory, Cognitive Load Theory, and contemporary language production models provides a more comprehensive framework for understanding how cognitive processing constraints generated by the digital environment may ultimately manifest as observable differences in adolescents' spoken sentence complexity.

This study addresses this research gap by examining the effect of exposure to short videos on the complexity of adolescents' spoken sentences. Unlike previous research that emphasizes communication behavior or speaking performance, this study conceptualizes spoken language from a linguistic perspective by focusing on syntactic complexity, including utterance length, subordinate clause production, syntactic variation, sentence elaboration, and idea development during spoken communication. These dimensions provide measurable indicators of linguistic sophistication that are closely related to cognitive processing efficiency.

The findings of this study are expected to provide theoretical contributions by extending Information Processing Theory and Cognitive Load Theory to the realm of spoken language production in digital communication environments. Practically, the results can provide empirical evidence for educators, parents, policymakers, and language researchers regarding the potential linguistic consequences of intensive short video consumption among adolescents. As algorithm-driven digital media continues to dominate everyday communication, understanding their influence on spoken sentence complexity becomes increasingly important for developing balanced digital literacy programs and promoting healthy language development in the digital age.

LITERATURE REVIEW

Short Video Exposure

Short-form video (SFV) refers to digital audiovisual content characterized by short duration, vertical orientation, algorithm-based distribution, and continuous presentation through mobile-based platforms such as TikTok, Instagram Reels, and YouTube Shorts (Masood et al., 2026; Salles, 2025). Unlike conventional online video, SFV is specifically designed to maximize user engagement by delivering concise, visually engaging, and personalized content in a very limited amount of time (Liu et al., 2026). The recommendation system relies on artificial intelligence algorithms that continuously analyze users' viewing behavior, viewing time, interaction history, and scrolling patterns to provide a highly personalized content stream. This recommendation mechanism transforms media consumption from an active information-seeking activity into a passive but ongoing process in which users are repeatedly exposed to rapidly changing audiovisual stimuli.

One of the hallmarks of short video platforms is the implementation of infinite scrolling, which minimizes the user's decision-making process by automatically displaying the next video as soon as the previous one ends (Haliti-Sylaj & Sadiku, 2024; Head Robert, 2025). This interface encourages uninterrupted media consumption and substantially increases exposure time. Because each video typically lasts between 15 and 60 seconds, users can encounter hundreds of independent topics during a single viewing session. As a result, adolescents experience constant cognitive transitions between unrelated information, visual scenes, speakers, and emotional contexts (Arouch et al., 2025; Head Robert, 2025; Jindal et al., 2025).

This behavior is referred to as rapid content consumption, which refers to the tendency to process large amounts of fragmented information in a relatively short period of time (Li et al., 2025)(Levey, 2025). Rather than fostering deep understanding, fast-paced content consumption emphasizes speed, novelty, and immediate engagement. Studies have shown that repeated exposure to rapidly changing multimedia stimuli affects attention allocation, working memory performance, information processing efficiency, and digital behavioral habits. Consequently, exposure to short-form video should not be conceptualized simply as screen time, but rather as a distinct cognitive environment capable of influencing broader psychological and linguistic processes.

In this study, Short Form Video Exposure is defined as the intensity of adolescents' interaction with algorithmically curated short-form videos across various digital platforms. This construct is operationalized through six observable indicators: (1) viewing frequency, (2) daily exposure duration, (3) scrolling intensity, (4) switching frequency between videos, (5) algorithmic exposure to personalized content, and (6) habitual viewing behavior. Together, these indicators represent adolescents' overall exposure to rapidly changing audiovisual information.

Complexity of Spoken Sentences

Spoken sentence complexity refers to the level of syntactic sophistication demonstrated during spoken language production. It reflects an individual's ability to organize ideas into grammatically complex utterances through the integration of multiple clauses, diverse sentence structures, and coherent discourse organization.

Unlike fluency, which emphasizes continuity and fluency of speech, spoken sentence complexity focuses on the structural characteristics of language itself (Hu et al., 2025; Park, 2022; Vercellotti, 2019).

In psycholinguistics, sentence complexity has long been considered one of the strongest indicators of linguistic competence because it requires simultaneous coordination between lexical retrieval, grammatical encoding, semantic organization, and discourse planning (Weirick & Lee, 2024). Producing complex spoken sentences involves selecting appropriate vocabulary, establishing syntactic relationships between clauses, and organizing ideas logically while maintaining communicative clarity. Consequently, sentence complexity represents both linguistic knowledge and cognitive processing efficiency (Giglio et al., 2024; Rathore, 2024; Y. Wang & Buschmeier, 2024).

Previous linguistic studies have generally assessed the complexity of spoken sentences through several quantitative indicators. Mean Length of Utterance (MLU) measures the average number of words or morphemes produced in an utterance and serves as a general indicator of linguistic development. Another important indicator is the frequency of subordinate clause production, which reflects a speaker's ability to integrate dependent and independent clauses into coherent discourse (Ezeizabarrena & Fernandez, 2018; Shadloo et al., 2019; P. Xu, 2023). Additional measures include syntactic variation, sentence elaboration, and idea expansion, all of which illustrate the richness and structural diversity of spoken language production.

Contemporary communication environments increasingly expose adolescents to concise and rapidly changing messages. Social media communication often favors shorter phrases, simplified sentence structures, and direct responses (Dembe, 2024; Naik et al., 2025; Siddique et al., 2025). While these characteristics enhance communication efficiency, prolonged adaptation to an abbreviated communication style may reduce opportunities to practice speaking with complex syntax. Therefore, spoken sentence complexity is an appropriate linguistic construct to evaluate whether repeated exposure to digital media environments is associated with changes in adolescents' natural language production.

In this study, spoken sentence complexity was conceptualized through six dimensions: Mean Length of Utterance (MLU), use of subordinate clauses, complex sentence production, syntactic variation, sentence elaboration, and idea expansion. These dimensions collectively represent adolescents' ability to produce linguistically sophisticated spoken language during everyday communication.

Information Processing Theory

Information Processing Theory provides one of the most influential cognitive frameworks for explaining how individuals receive, encode, organize, store, and retrieve information. Originally proposed by Atkinson and Shiffrin (1968), this theory conceptualizes human cognition as a series of interrelated processes involving sensory memory, working memory, and long-term memory. Incoming information initially enters sensory memory before selective attention determines which stimuli are transferred to working memory for further processing. Only information that receives sufficient cognitive resources can be encoded and stored meaningfully in long-term memory (Ku, 2018; Öğmen & Herzog, 2016).

In digital environments, attention becomes a crucial resource because users are constantly exposed to multiple competing stimuli. Short-form video platforms repeatedly present new audiovisual information that demands immediate attention shifts. Each new video introduces a different visual context, speaker, topic, sound, and emotional cues, requiring users to repeatedly interrupt ongoing cognitive processes (Arouch et al., 2025; Mona et al., 2026). Such rapid attention shifts can reduce opportunities for elaborative processing, thus impacting subsequent language production. This theory further states that effective verbal communication depends on the successful encoding and integration of semantic information before speech planning occurs. If cognitive resources are repeatedly diverted to processing rapidly changing digital stimuli, fewer resources are available to organize linguistically complex utterances. Consequently, Information Processing Theory predicts that intensive exposure to algorithmically curated short videos may indirectly affect adolescents' spoken sentence complexity through changes in cognitive processing efficiency.

Cognitive Load Theory

Cognitive Load Theory (CLT), introduced by Sweller (1988), explains that human working memory has a limited processing capacity. Learning and cognitive performance are influenced by three forms of cognitive load: intrinsic load, external load, and relevant load. Intrinsic load reflects the inherent complexity of the material being processed, while external load stems from the unnecessary characteristics of the information presentation. Relevant load represents cognitive resources devoted to meaningful comprehension and schema construction (Baxter et al., 2025; Tabatabaee et al., 2024).

Short-form video platforms present multimedia information through a combination of narration, subtitles, background music, animation, visual transitions, emojis, and rapid, synchronous scene changes. While these features increase user engagement, they also increase unnecessary cognitive load by requiring users to process multiple information channels simultaneously. Continuous exposure to this highly stimulating environment can reduce the cognitive resources available for deeper linguistic planning. Producing syntactically complex spoken language requires substantial working memory resources because speakers must simultaneously retrieve vocabulary, organize grammatical structures, maintain discourse coherence, and monitor communication

effectiveness (Mona et al., 2026; Z. Xu et al., 2024). When working memory is consistently burdened by fragmented multimedia processing, adolescents may gradually adopt simpler linguistic strategies that require less cognitive effort. Consequently, Cognitive Load Theory provides an important explanation for why intensive exposure to short videos can contribute to reduced spoken sentence complexity.

Language Production Theory

Language Production Theory, specifically Levelt's speech production model, explains how speakers transform conceptual intentions into articulated spoken language. According to this model, speech production consists of three main stages: conceptualization, formulation, and articulation. During conceptualization, speakers determine communicative intentions and organize ideas. Formulation involves lexical selection and grammatical encoding, while articulation transforms linguistic representations into spoken utterances (Chen, 2004; Model, nd.) Sentence complexity depends heavily on the efficiency of the formulation stage. Constructing complex sentences requires speakers to retrieve multiple lexical items, establish syntactic relationships between clauses, organize hierarchical grammatical structures, and maintain discourse coherence throughout utterance production. This process demands substantial cognitive coordination between working memory, attention, and language planning mechanisms.

A digital communication environment characterized by fragmented information can impact this linguistic planning process. Adolescents who frequently consume short videos become accustomed to brief, rapidly changing, and highly compressed information formats. Repeated adaptation to these communication patterns can gradually lead to simpler sentence construction, reduced clause integration, and shorter utterances during spontaneous conversation. Therefore, Language Production Theory provides a direct psycholinguistic explanation linking digital media exposure to spoken sentence complexity.

Conceptual Framework and Research Hypothesis

Drawing on Information Processing Theory, Cognitive Load Theory, and Language Production Theory, this study proposes that repeated exposure to short video content influences adolescents' spoken sentence complexity through cognitive mechanisms involving attention allocation, working memory limitations, and grammatical planning (Alroqi et al., 2023). Algorithm-driven media environments continually expose users to fragmented audiovisual stimuli that encourage rapid rather than more detailed information processing. Over time, these cognitive adaptations may be reflected in everyday spoken language production through simpler sentence structures, shorter utterances, and reduced syntactic elaboration.

Therefore, the conceptual model of this study assumes that Short Form Video Exposure functions as an independent variable that influences Oral Sentence Complexity as a dependent variable.

The hypothesis proposed is:

H₁: Exposure to short-duration videos had a significant negative effect on adolescents' spoken sentence complexity.

METHOD

Research Design

This study employed a quantitative explanatory research design using a cross-sectional survey to investigate the effect of short video exposure on adolescents' spoken sentence complexity. A quantitative approach was deemed appropriate because it allows for the examination of statistical relationships between variables and facilitates hypothesis testing based on empirical evidence. The cross-sectional design allowed all data to be collected at a single point in time, providing a comprehensive picture of adolescents' digital media exposure and their spoken language characteristics. The independent variable was Short Video Exposure (X), while the dependent variable was Spoken Sentence Complexity (Y). The conceptual model assumes that increased exposure to algorithm-driven short videos may impact adolescents' ability to produce syntactically complex spoken language.

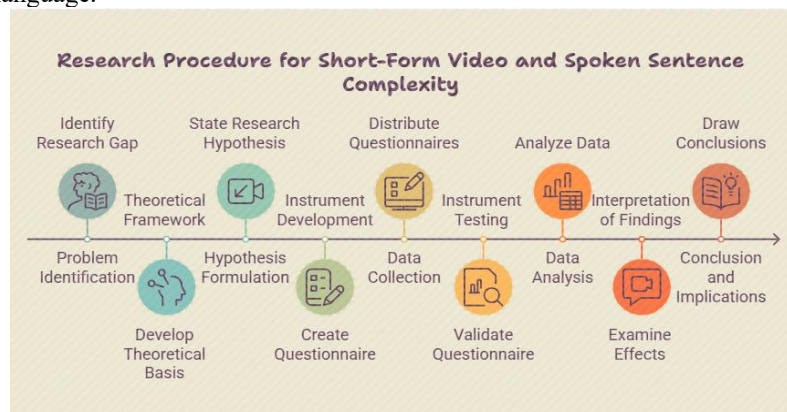


Figure 1. Research Prosedure

Participant

The study involved 312 Indonesian teenagers aged between 15 and 24 who actively used at least one short-form video platform, including TikTok, Instagram Reels, or YouTube Shorts.

Participants were selected using a purposive sampling method based on the following inclusion criteria:

1. aged between 15 and 24 years;
2. actively use smartphones every day;
3. watching short videos at least five days per week;
4. have a minimum viewing duration of 30 minutes per day; and
5. voluntarily agree to participate by giving consent based on the information provided.

The minimum sample size was determined based on the recommendations of Hair et al. (2022), who suggest that quantitative regression-based studies require at least 200 observations to obtain stable parameter estimates and adequate statistical power. Therefore, the final sample of 312 respondents exceeded the recommended minimum and was deemed adequate for hypothesis testing.

Demographic Characteristics

Table 1. Demographic Characteristics of Respondents

Variables	Category	Frequency	Percentage (%)
Gender	Man	138	44.2
	Woman	174	55.8
Age	15–17 years	71	22.8
	18–21 years	162	51.9
	22–24 years	79	25.3
Education	Senior High School	116	37.2
	University Students	196	62.8

Regarding media consumption habits, 75.6% of respondents reported watching short videos for more than one hour per day, indicating that short video platforms have become a regular component of teenagers' daily digital activities.

Research Variables

Independent Variables

The independent variable is Short-Duration Video Exposure, which is defined as the intensity and frequency of adolescents' interactions with algorithmically curated short-duration video content.

The construction consists of six indicators:

- viewing frequency;
- daily viewing duration;
- scrolling intensity;
- frequency of switching between videos;
- algorithmic exposure to personalized content; and
- viewing behavior that has become a habit.

Dependent Variable

The dependent variable is Oral Sentence Complexity, which is defined as the adolescent's ability to produce syntactically complex spoken utterances during everyday communication.

The construct is measured using six linguistic indicators:

- Mean Length of Utterance (MLU);
- use of subordinate clauses;
- production of complex sentences;
- syntactic variation;
- sentence elaboration; and
- expansion of ideas.

Instrument Development

Data were collected using a structured, self-administered questionnaire, developed from previous studies on digital media consumption, psycholinguistics, and spoken language production. The questionnaire consisted of 12 items, including six items measuring Short-Form Video Exposure and six items measuring Spoken Sentence Complexity.

All questionnaire items use a five-point Likert scale ranging from:

- 1 = Strongly Disagree
- 2 = Disagree
- 3 = Neutral
- 4 = Agree
- 5 = Strongly Agree

Examples of questionnaire items are presented below.

Short Video Exposure

- I watch short videos several times every day.
- I kept scrolling from one video to another without stopping.
- I often watch recommended videos generated by the platform's algorithm.
- I lost track of time while watching short videos.
- I immediately switched to another video as soon as the video I was watching ended.
- Watching short videos has become part of my daily routine.

Complexity of Spoken Sentences

- I usually explain ideas using detailed sentences.
- I often connect several ideas in one sentence.
- I often use complex sentence structures when speaking.
- I outlined my opinion before coming to a conclusion.
- I can explain the relationships between ideas clearly during conversations.
- My oral explanations generally contain more than one supporting idea.

Content Validity

Content validity was established through expert assessment involving three specialists in the fields of applied linguistics, communication studies, and educational psychology.

Each expert evaluated the questionnaire based on four criteria:

- relevance;
- clarity;
- representation; and
- Language suitability.

Minor revisions were made based on recommendations from reviewers to improve wording consistency and eliminate ambiguous phrases.

Pilot Testing

Prior to the main survey, a pilot study involving 30 adolescents was conducted to assess the questionnaire's readability and initial psychometric properties. Participants in the pilot study were not included in the final sample. Feedback from the pilot study respondents indicated that all questionnaire items were easy to understand and could be completed in approximately ten minutes.

Validity Testing

Construct validity was assessed using Pearson Product Moment Correlation. An item is considered valid if:

- $r\text{-count} > r\text{-table}$ (0.111); And
- $p < 0.05$.

Table 2 presents the validity results.

Table 2. Item Validity

Goods	r value	Decision
X1	0.744	Legitimate
X2	0.782	Legitimate
X3	0.715	Legitimate
X4	0.768	Legitimate
X5	0.736	Legitimate
X6	0.771	Legitimate
Year 1	0.719	Legitimate
2nd year	0.752	Legitimate
3rd year	0.798	Legitimate
Grade 4	0.726	Legitimate
Grade 5	0.782	Legitimate
Grade 6	0.764	Legitimate

All questionnaire items exceeded the required validity threshold and were retained for further analysis.

Reliability Testing

Internal consistency reliability was examined using Cronbach's Alpha. A coefficient of 0.70 or higher indicates satisfactory reliability.

Table 3. Reliability Results

Variables	Cronbach's alpha
Short Video Exposure	0.892
Complexity of Spoken Sentences	0.905

The reliability coefficients indicate excellent internal consistency for both constructs.

Data Collection Procedures

Data collection was conducted over a four-week period between March and April 2026. Questionnaires were distributed online using Google Forms through secondary schools, universities, and youth communities in several provinces in Indonesia. Participation was voluntary, anonymous, and confidential. Before completing the questionnaire, all participants received information about the study's purpose and provided electronic consent. To ensure data quality, duplicate responses were removed using Google account verification and IP address checking. Questionnaires with incomplete responses or inconsistent response patterns were excluded from the final data set.

Data Analysis

All statistical analyses were performed using IBM SPSS Statistics Version 27. Data analysis was conducted in several stages. First, descriptive statistics were calculated to summarize respondents' demographic characteristics and variable distributions. Second, the quality of the measurement instruments was evaluated through validity and reliability analyses.

Third, classical assumption testing is performed before hypothesis testing, including:

- normality using the Shapiro–Wilk test;
- multicollinearity using Variance Inflation Factor (VIF);
- heteroscedasticity using the Glejser test; and
- Pearson correlation analysis to examine the relationship between research variables.

Finally, simple linear regression analysis was used to determine the effect of Short Form Video Exposure on Spoken Sentence Complexity.

The regression model is formulated as follows:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Where:

- Y= Complexity of Oral Sentences;
- X= Short Form Video Viewing;
- β_0 = intercept;
- β_1 = regression coefficient; and
- ε = error term.

Statistical significance was determined at the 0.05 significance level ($p < 0.05$).

The coefficient of determination (R^2) was calculated to estimate the proportion of variance in adolescents' spoken sentence complexity explained by exposure to short-duration videos.

RESULTS AND DISCUSSION

Results

Respondent Characteristics

A total of 312 adolescents participated in this study. Among them, 174 (55.8%) were female and 138 (44.2%) were male. Most respondents were aged 18–21 years (51.9%), followed by those aged 22–24 years (25.3%) and those aged 15–17 years (22.8%). Regarding educational background, 62.8% were university students, while 37.2% were high school students.

Regarding media consumption behavior, the majority of respondents (75.6%) reported watching short videos for more than one hour per day, while about a third (33.0%) spent more than two hours daily consuming short video content. These findings indicate that short video platforms have become an integral part of teenagers' daily digital activities.

Table 4. Demographic Characteristics of Respondents

Variables	Category	Frequency	Percentage (%)
Gender	Man	138	44.2
	Woman	174	55.8
Age	15–17 years	71	22.8
	18–21 years	162	51.9
	22–24 years	79	25.3
	<30 minutes	21	6.7
Daily SFV Exposure	30–60 minutes	55	17.6
	1–2 hours	133	42.6
	>2 hours	103	33.0

Descriptive Statistics

Descriptive statistics were calculated to determine the overall trend of the research variables.

Table 5. Descriptive Statistics

Variables	Means	Elementary School	Category
Short Video Exposure	3.91	0.61	Tall
Complexity of Spoken Sentences	3.34	0.58	Currentl y

The results showed that adolescents exhibited high levels of exposure to short videos ($M = 3.91$, $SD = 0.61$). In contrast, the mean score for spoken sentence complexity ($M = 3.34$, $SD = 0.58$) was classified as moderate. These findings suggest that despite adolescents' extensive exposure to short video content, their ability to construct syntactically complex spoken sentences is not equally high. This descriptive pattern provides an initial indication that intensive digital media exposure may be associated with differences in spoken language production.

Instrument Testing

Validity Test

Pearson Product-Moment analysis showed that each questionnaire item exceeded the minimum validity criteria ($r > 0.111$).

Table 6. Validity Test

Variables	lowest r	highest r	Decision
Short Video Exposure	0.715	0.782	Legitimate
Complexity of Spoken Sentences	0.719	0.798	Legitimate

Therefore, all questionnaire items were retained for further statistical analysis.

Reliability Test

The Cronbach's Alpha coefficient exceeds the recommended threshold of 0.70.

Table 7. Reliability Test

Variables	Cronbach's alpha	Interpretation
Short Video Exposure	0.892	Very good
Complexity of Spoken Sentences	0.905	Very good

The findings indicate excellent internal consistency for both constructs.

Classical Assumption Test

Before conducting the regression analysis, several classical assumption tests were carried out.

Table 8. Classical Assumption Test

Test	Results	Interpretation
Shapiro-Wilk	$p = 0.091$	Normal
VIF	1.00	There is no multicollinearity
Tolerance	1,000	Acceptable
Glejser Test	$p = 0.473$	There is no heteroscedasticity

These results confirm that the dataset meets all the assumptions required for linear regression analysis.

Correlation Analysis

Pearson correlation analysis was performed to determine the strength of the relationship between variables.

Table 9. Pearson Correlation

Variables	R	P
Short Video Exposure → Complexity of Spoken Sentences	-.467	<0.001

The correlation coefficient shows a moderate negative relationship between exposure to short videos and spoken sentence complexity. Adolescents with higher exposure to short videos tended to produce less syntactically complex spoken language.

Hypothesis Testing

To test the proposed hypothesis, a simple linear regression analysis was performed.

Table 10. Regression Coefficients

Predictor	β	T	Signature.
Short Video Exposure	-.431	-8,642	<0.001

The regression coefficient was statistically significant ($\beta = -0.431$, $t = -8.642$, $p < 0.001$), indicating that exposure to short-duration videos had a significant negative effect on adolescents' spoken sentence complexity. Therefore, H_1 is accepted.

Model Summary

Table 11. Model Summary

R	R ²	Adjusted R ²	Standard Error
0.467	0.218	.216	0.512

The coefficient of determination ($R^2 = 0.218$) indicates that approximately 21.8% of the variance in spoken sentence complexity can be explained by exposure to short-duration videos, while the remainder, namely 78.2%, is due to other variables not included in this study.

Regression Equation

The regression equation is stated as follows:

$$[Y = 4.982 - 0.431X]$$

This equation shows that each one-point increase in exposure to short-duration videos predicts a 0.431-point decrease in spoken sentence complexity.

Discussion

This study found that exposure to short-form video significantly and negatively impacted adolescents' spoken sentence complexity. Adolescents who reported higher levels of exposure to TikTok, Instagram Reels, and YouTube Shorts tended to produce spoken language characterized by shorter utterances, less syntactic variation, fewer subordinate clauses, and reduced idea elaboration. Although the explanatory power of the regression model was moderate ($R^2 = 0.218$), these findings provide empirical evidence that intensive engagement with algorithm-based short-form video platforms is associated with measurable differences in adolescents' spoken language production.

These findings are consistent with Information Processing Theory, which posits that human cognitive processing relies on limited attentional resources. Short-form video platforms continuously present highly dynamic audiovisual stimuli that require frequent attention shifts. Each new video introduces a different visual context, topic, speaker, and emotional cues, requiring users to repeatedly shift attention from one stimulus before processing another. These repeated attention shifts may reduce opportunities for deep semantic integration and syntactic planning. As a result, adolescents may gradually develop communication habits that favor short, simple sentence structures over complex verbal expressions (Haliti-Sylaj & Sadiku, 2024; Maghfur et al., 2020).

These findings also support the assumptions of Cognitive Load Theory. Producing complex spoken sentences requires the simultaneous activation of working memory, lexical retrieval, grammatical encoding, discourse organization, and self-monitoring (Baxter et al., 2025; Tabatabaee et al., 2024). Continuous exposure to fragmented multimedia content increases additional cognitive load because multiple sources of information—including moving images, narration, subtitles, music, and visual effects—must be processed simultaneously. As working memory resources are increasingly occupied by these competing stimuli, fewer cognitive resources are available to construct syntactically complex utterances. This mechanism provides a plausible explanation for the observed negative relationship between exposure to short-duration videos and spoken sentence complexity.

From a Language Production Theory perspective, the formulation stage of speech production is particularly vulnerable to cognitive overload. During spontaneous conversation, speakers must organize conceptual representations into grammatically coherent structures while maintaining communicative effectiveness (Chen, 2024; Model et al., n.d.). Intensive consumption of short videos can foster a habitual reliance on concise information formats, direct responses, and a concise communication style. Over time, these interaction patterns can be internalized and transferred to everyday spoken language, resulting in shorter utterances and reduced syntactic complexity.

The current findings also complement previous studies examining the cognitive consequences of short video consumption. Previous research has shown that intensive exposure to algorithm-driven videos is associated with changes in attention regulation, working memory, prospective memory, and academic performance (Masood et al., 2026; Salles, 2025). While these studies primarily focused on cognitive functions, the current research extends this literature by demonstrating that these cognitive adaptations may also manifest in the structural characteristics of spoken language. Rather than simply affecting communication confidence or verbal fluency, intensive digital media exposure appears to influence the grammatical organization of adolescents' spontaneous speech.

Nevertheless, the coefficient of determination indicates that 78.2% of the variance in spoken sentence complexity remains unexplained by exposure to short videos alone. Spoken language production is inherently multidimensional and influenced by many additional factors, including vocabulary knowledge, educational attainment, reading habits, family communication climate, bilingual experience, verbal intelligence, socioeconomic background, and frequency of face-to-face interaction. Consequently, exposure to short videos should be interpreted as one contributing factor and not as the sole determinant of adolescents' linguistic performance.

These findings have several important practical implications. For educators, the results of this study emphasize the need to integrate activities that promote oral language development, such as classroom discussions, storytelling, debates, and academic presentations, to offset the communication patterns driven by highly compressed digital media. Parents can support language development by encouraging meaningful conversations at home and promoting balanced media consumption. Policymakers should consider incorporating digital communication literacy into educational curricula, helping adolescents develop a critical awareness of how algorithm-driven media environments can shape cognitive and linguistic behavior.

Finally, this study contributes to the growing field of digital psycholinguistics by demonstrating that the consequences of short video consumption extend beyond attention and memory to include the structural organization of spoken language. As algorithm-driven media continues to dominate adolescents' daily lives, understanding its influence on linguistic complexity becomes increasingly important to support healthy language development in the digital age.

CONCLUSION

This study examined the effect of short video exposure on adolescents' spoken sentence complexity. Findings indicate that short video exposure has a negative and statistically significant effect on spoken sentence complexity. Adolescents who reported higher levels of exposure to short video platforms such as TikTok, Instagram Reels, and YouTube Shorts tended to produce spoken language characterized by shorter utterances, reduced syntactic variation, fewer subordinate clauses, and less detailed idea development. These findings suggest that the cognitive characteristics of algorithm-driven short video platforms extend beyond entertainment and information consumption, influencing the linguistic structure of adolescents' everyday spoken communication.

From a theoretical perspective, this study extends Information Processing Theory, Cognitive Load Theory, and Language Production Theory by demonstrating that continuous exposure to fragmented and rapidly changing audiovisual content is associated with differences in spoken language production. The findings suggest that repeated attention shifts and increased cognitive load can reduce the cognitive resources available for grammatical planning and syntactic organization during speech. Consequently, this study provides empirical evidence that the digital media environment can shape not only cognitive functioning but also the structural complexity of adolescents' spoken language.

Practically, these findings highlight the importance of promoting balanced digital media consumption among adolescents. Educators should provide more opportunities for students to engage in oral communication activities that encourage sentence elaboration, critical discussion, storytelling, presentations, and argumentative speaking. Parents are encouraged to foster meaningful face-to-face conversations and establish healthy digital media habits at home. Furthermore, educational institutions and policymakers should strengthen digital literacy programs that emphasize not only responsible technology use but also the preservation and development of rich oral language skills in an increasingly digital communication environment.

Although the regression model showed a statistically significant relationship, exposure to short videos only explained 21.8% of the variance in adolescents' spoken sentence complexity. These findings suggest that spoken language development is influenced by a variety of cognitive, linguistic, educational, and social factors beyond digital media exposure. Therefore, future research is encouraged to incorporate additional variables such as vocabulary size, reading habits, verbal intelligence, bilingual experience, family communication climate, frequency of face-to-face interactions, and digital literacy. Furthermore, longitudinal and experimental studies are recommended to examine causal relationships and to determine whether prolonged exposure to short video content results in lasting changes in spoken sentence complexity over time.

Overall, this study contributes to the field. The emerging field of digital psycholinguistics provides empirical evidence that algorithm-driven short-form video consumption is associated with adolescents' spoken language production. As short-form video platforms continue to dominate contemporary digital culture, understanding their linguistic implications becomes increasingly important to support healthy communication development and foster adolescents' ability to produce syntactically rich and effective spoken language in the digital age.

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AUTHOR CONTRIBUTION STATEMENT

Conceptualization, literature review, research design, instrument development, data collection, data curation, formal analysis, interpretation of findings, manuscript preparation, manuscript revision, and final approval of the submitted version.

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