

## **Pengaruh Intensitas Penggunaan Bahasa Gaul di Media Sosial Terhadap Kemampuan Menulis Akademik Mahasiswa Perguruan Tinggi di Indonesia Serta Dampaknya Terhadap Penguatan Literasi Akademik dan Kualitas Publikasi Ilmiah Mahasiswa**

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### **Abstract**

The rapid growth of social media has transformed university students' communication practices, leading to the widespread use of slang language in everyday digital interactions. This phenomenon has raised concerns regarding its potential influence on academic writing, which requires the use of formal, coherent, and standardized language. This study aims to examine the influence of the intensity of slang language use on social media on the academic writing ability of Indonesian university students and its subsequent impact on academic literacy and the quality of students' scientific publications. The study employed a quantitative explanatory research design. Data were collected through structured questionnaires, assessments of students' academic writing, and evaluations of scientific manuscripts using validated assessment rubrics. Respondents were selected using a multistage stratified random sampling technique to ensure representation from various higher education institutions across Indonesia. The collected data were analyzed using descriptive statistics, validity and reliability testing, and Structural Equation Modeling (SEM) to examine both direct and indirect relationships among the proposed variables. The findings indicate that the intensity of slang language use on social media significantly influences students' academic writing ability. Furthermore, academic writing competence contributes positively to the development of academic literacy, which subsequently enhances the quality of students' scientific publications. The findings suggest that slang language represents a natural form of linguistic variation within digital communication; however, students require stronger linguistic awareness to distinguish between informal digital discourse and formal academic writing. This study contributes to the development of digital sociolinguistics and applied linguistics by providing empirical evidence regarding the relationship between digital language behavior and academic performance. The findings also offer practical recommendations for higher education institutions to strengthen academic literacy programs and scientific writing instruction in response to the challenges of the digital era.

**Keywords:** slang language, social media, academic writing ability, academic literacy, scientific publication quality, digital sociolinguistics.

### Abstrak

Perkembangan media sosial telah mengubah pola komunikasi mahasiswa, termasuk meningkatnya penggunaan bahasa gaul dalam interaksi digital sehari-hari. Fenomena ini menimbulkan kekhawatiran mengenai pengaruhnya terhadap kemampuan menulis akademik yang menuntut penggunaan bahasa baku, logis, dan sistematis. Penelitian ini bertujuan untuk menganalisis pengaruh intensitas penggunaan bahasa gaul di media sosial terhadap kemampuan menulis akademik mahasiswa perguruan tinggi di Indonesia serta dampaknya terhadap penguatan literasi akademik dan kualitas publikasi ilmiah mahasiswa. Penelitian menggunakan pendekatan kuantitatif dengan desain penelitian eksplanatori. Data dikumpulkan melalui kuesioner terstruktur, penilaian hasil tulisan akademik mahasiswa, serta evaluasi kualitas karya ilmiah menggunakan rubrik penilaian yang telah divalidasi. Sampel penelitian dipilih menggunakan teknik *multistage stratified random sampling* sehingga mampu merepresentasikan mahasiswa dari berbagai perguruan tinggi di Indonesia. Analisis data dilakukan secara bertahap melalui statistik deskriptif, uji validitas dan reliabilitas instrumen, serta *Structural Equation Modeling* (SEM) untuk menguji hubungan langsung maupun tidak langsung antarvariabel penelitian. Hasil penelitian menunjukkan bahwa intensitas penggunaan bahasa gaul di media sosial berpengaruh terhadap kemampuan menulis akademik mahasiswa. Kemampuan menulis akademik selanjutnya memberikan kontribusi positif terhadap penguatan literasi akademik, yang pada akhirnya berpengaruh terhadap peningkatan kualitas publikasi ilmiah mahasiswa. Temuan penelitian menegaskan bahwa penggunaan bahasa gaul merupakan bentuk variasi bahasa yang wajar dalam komunikasi digital, namun diperlukan kesadaran linguistik agar mahasiswa mampu membedakan penggunaan bahasa informal dan bahasa akademik sesuai konteks komunikasi. Penelitian ini memberikan kontribusi teoretis terhadap pengembangan kajian sosiolinguistik digital dan linguistik terapan, sekaligus memberikan rekomendasi praktis bagi perguruan tinggi dalam merancang program penguatan literasi akademik dan pembelajaran menulis ilmiah di era digital.

**Kata Kunci:** bahasa gaul, media social, kemampuan menulis akademik, literasi akademik, publikasi ilmiah, sosiolinguistik digital.

### Introduction

The rapid advancement of digital communication technologies has fundamentally transformed the way university students interact, exchange information, and construct linguistic identities in contemporary society (Crystal, 2011). Social media platforms have become the primary communication environment for Indonesian university students, encouraging the extensive use of informal linguistic expressions, abbreviated forms, slang vocabulary, code-mixing, and creative language innovations that differ considerably from conventional academic language (Androutsopoulos, 2014). Within this digital environment, language is no longer merely a medium of communication but also a marker of identity, social belonging, and participation in online communities (Tagliamonte & Denis, 2008).

Indonesia has experienced an unprecedented increase in internet penetration during the last decade, accompanied by significant growth in social media usage among young adults and university students (APJII, 2024). The widespread accessibility of platforms such as Instagram, TikTok, X, WhatsApp, and Facebook has intensified daily exposure to colloquial language, resulting in increasingly frequent use of slang expressions in written interactions (Nasrullah, 2017). Although such linguistic practices represent a natural manifestation of language variation within digital communities, they also raise important questions regarding their influence on students' formal academic writing abilities (Holmes & Wilson, 2022).

From a sociolinguistic perspective, language variation is an inevitable consequence of social interaction because speakers continuously adjust their linguistic choices according to context, audience, and communicative purposes (Labov, 1972). Slang constitutes one of the most dynamic language varieties, evolving rapidly through peer interaction, technological innovation, and popular culture (Holmes & Wilson, 2022). While the use of slang is entirely appropriate in informal communication, its continuous and intensive use may gradually shape habitual writing patterns that are inconsistent with the conventions of academic discourse (Hyland, 2019).

Academic writing requires substantially different linguistic competencies from those employed in social media communication (Hyland, 2019). Effective academic writing demands grammatical accuracy, coherent organization, logical reasoning, discipline-specific vocabulary, critical argumentation, and adherence to formal language conventions (Swales & Feak, 2012). Consequently, students who regularly switch between informal digital communication and formal academic writing may encounter linguistic interference when producing scholarly texts (Ellis, 2015).

Within psycholinguistic theory, repeated linguistic behaviour contributes to the development of automatic language processing mechanisms that influence subsequent language production (Levitt, 1989). When informal expressions dominate everyday written communication, they may become cognitively entrenched and unintentionally appear in formal academic assignments (Ellis, 2015). Such interference may manifest through inappropriate lexical choices, ineffective sentence structures, excessive abbreviations, inconsistent punctuation, and violations of standard academic conventions (Hyland, 2019).

The issue has become increasingly significant in Indonesian higher education because academic writing represents one of the core competencies expected from university graduates (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2020). Undergraduate students are required to produce various forms of scholarly writing, including essays, research proposals, laboratory reports, undergraduate theses, and journal articles, all of which demand mastery of formal academic language (Arono & Arsyad, 2019). Consequently, deficiencies in academic writing may negatively influence students' academic achievement and research productivity (Arsyad, Purwo, Sukanto, & Adnan, 2019).

Several studies conducted in Indonesia have reported persistent weaknesses in students' academic writing performance, particularly in grammar, cohesion, coherence, diction, referencing, and argument development (Arsyad et al., 2019). Similar findings indicate that many undergraduate students continue to experience difficulties in distinguishing between informal digital language and formal academic discourse during the writing process (Samanhudi & Sampurna, 2021). These conditions suggest that linguistic habits acquired through digital communication deserve greater scholarly attention because they may influence students' academic literacy development.

Academic literacy extends beyond the ability to write grammatically correct sentences because it encompasses critical reading, information evaluation, synthesis of scholarly sources, ethical citation practices, and effective participation in academic discourse communities (Lea & Street, 1998). Students with strong academic literacy are generally more capable of constructing evidence-based arguments, integrating scholarly literature, and communicating research findings according to disciplinary expectations (Hyland, 2019). Therefore, academic writing competence should be understood as an essential component of broader academic literacy rather than an isolated linguistic skill.

The increasing emphasis on student scientific publications within Indonesian higher education further highlights the importance of strengthening academic literacy (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2020). Universities are expected to encourage undergraduate students to publish research findings in reputable journals, conference proceedings, and institutional repositories as part of quality assurance initiatives (Arsyad et al., 2019). Achieving these objectives requires students to demonstrate advanced academic writing competence that complies with internationally recognized scholarly standards (Swales & Feak, 2012).

Despite growing scholarly interest in digital communication, empirical evidence concerning the relationship between the intensity of slang language use on social media and academic writing ability remains limited, particularly within the Indonesian higher education context (Samanhudi & Sampurna, 2021). Most previous investigations have primarily explored language attitudes, digital communication behaviour, or code-mixing practices without examining their broader implications for academic literacy and scientific publication quality (Nasrullah, 2017). Consequently, a comprehensive investigation integrating sociolinguistic, psycholinguistic, and academic literacy perspectives is still needed to explain these complex relationships.

The present study therefore seeks to examine how the intensity of slang language use on social media influences Indonesian university students' academic writing competence and how this relationship subsequently affects academic literacy development and the quality of students' scientific publications. By developing an integrated empirical model connecting digital linguistic behaviour, academic writing competence, academic literacy, and scientific publication quality, this research is expected to contribute both theoretically to applied linguistics and practically to language education policy in Indonesian higher education institutions.

Previous studies have demonstrated that social media significantly influences students' language practices and communication behaviour, yet the implications for academic writing remain inconclusive. Several investigations have reported that frequent exposure to informal online language encourages the use of abbreviations, slang expressions, and nonstandard grammatical forms in students' daily communication, which may subsequently appear in formal writing tasks. However, most of these studies primarily focused on language attitudes, digital communication patterns, or code-mixing phenomena rather than examining academic writing competence in a comprehensive manner. As a result, existing research has not sufficiently explained whether intensive use of slang language directly affects the quality of students' academic writing, particularly in relation to grammar, coherence, argumentation, referencing, and adherence to academic conventions.

Another limitation concerns the scope and methodological approach of previous research. Earlier studies were generally conducted within a single institution, involved relatively small samples, or employed descriptive qualitative methods that did not allow for the testing of causal relationships among variables. Moreover, many investigations treated academic writing as an isolated skill without considering its connection to broader academic literacy development. Consequently, little empirical evidence is available regarding how students' digital language habits influence their ability to read critically, evaluate scholarly information, synthesize sources, and participate effectively in academic discourse communities. This gap is particularly important because academic literacy is increasingly recognized as a key determinant of research productivity and scholarly communication in higher education.

The present study addresses these shortcomings by proposing an integrated model that connects the intensity of slang language use on social media, academic writing ability, academic literacy, and the quality of students' scientific publications. Unlike previous studies that examined only one or two variables, this research investigates both the direct and indirect relationships among these constructs within the context of Indonesian universities. In addition, the study adopts a broader national perspective and employs a quantitative explanatory approach capable of testing causal pathways and mediation effects. Therefore, the novelty of this research lies in its effort to explain how digital linguistic behaviour may shape academic writing competence and, ultimately, influence students' academic literacy and scientific publication quality in Indonesian higher education.

The primary objective of this study is to analyse the influence of the intensity of slang language use on social media on Indonesian university students' academic writing ability and to examine how this relationship affects academic literacy and the quality of students' scientific publications. Specifically, the study seeks to identify the level of students' exposure to slang language in digital communication, evaluate their academic writing competence, and test the direct and indirect effects

among the proposed variables. Through this investigation, the research aims to develop an empirical model that explains the relationship between digital language practices and academic performance in higher education.

The findings of this study are expected to provide both theoretical and practical contributions. Theoretically, the research will enrich the fields of applied linguistics, sociolinguistics, psycholinguistics, and academic literacy by offering a more comprehensive explanation of how digital communication influences formal academic language use. Practically, the results may serve as a reference for universities, lecturers, and policymakers in designing programs that strengthen students' academic writing competence, digital language awareness, and scientific publication skills. Ultimately, the study is expected to support efforts to improve academic literacy and research quality among Indonesian university students.

## Method

Language variation is an inherent characteristic of every speech community because language continuously evolves in response to social interaction, technological advancement, and cultural transformation. The emergence of slang language on social media exemplifies this dynamic process, in which speakers creatively modify vocabulary, pronunciation, and expressions to establish group identity and facilitate interpersonal communication (Labov, 1972). Within the framework of sociolinguistics, language choice is closely associated with speakers' social background, communicative purpose, and interactional context, indicating that linguistic forms vary according to specific social situations rather than remaining fixed across all communicative settings (Holmes & Wilson, 2022).

The rapid development of digital communication has expanded the scope of sociolinguistic inquiry by introducing the concept of digital sociolinguistics, which examines how online platforms shape language behaviour and communication practices. Social media environments encourage users to employ informal linguistic features such as abbreviations, acronyms, emojis, code-mixing, and slang expressions to achieve greater efficiency, creativity, and social engagement (Crystal, 2011). Recent systematic literature reviews further indicate that Indonesian social media platforms have become productive spaces for the emergence and diffusion of slang language, particularly among Generation Z users, where slang functions not only as a communication strategy but also as a marker of identity and community membership.

The widespread use of slang language reflects the adaptive nature of language in digital communication; however, it also raises concerns regarding the maintenance of standard language norms in educational contexts. Research examining Indonesian social media demonstrates that slang frequently appears in the form of abbreviations, phonological modifications, lexical innovations, and borrowed words, all of which contribute to the increasing dominance of informal language in everyday written interaction. Consequently, prolonged exposure to these informal linguistic patterns may influence users' awareness of formal language conventions, particularly among university students who frequently alternate between academic and non-academic communication settings.

From the perspective of register theory, language users naturally adjust their linguistic choices according to communicative situations and audiences. Academic discourse requires precision, objectivity, logical organization, and adherence to standardized grammatical conventions, whereas social media communication prioritizes immediacy, expressiveness, and interpersonal solidarity (Halliday & Hasan, 1976). Difficulties arise when students fail to distinguish between these registers, allowing informal expressions developed through digital communication to transfer into academic writing. Such register interference may reduce the clarity, coherence, and credibility of scholarly texts, particularly when non-

standard lexical items or conversational sentence structures appear in formal academic assignments (Hyland, 2019).

Contemporary studies have increasingly emphasized that the challenge is not the existence of slang itself but rather the inability of learners to differentiate appropriate language varieties across communicative contexts. Social media therefore should not be regarded solely as a threat to language development; instead, it represents a complex linguistic environment that simultaneously encourages creativity while demanding stronger academic language awareness. Recent investigations on social media-based academic writing similarly argue that digital platforms can support academic learning when accompanied by explicit instruction that helps students recognize the boundaries between informal online communication and formal scholarly writing.

This study adopts a quantitative explanatory research design to examine the influence of the intensity of slang language use on social media on university students' academic writing ability and its subsequent impact on academic literacy and the quality of students' scientific publications in Indonesia. An explanatory approach is considered appropriate because the research seeks not only to describe existing phenomena but also to investigate the causal relationships among the proposed variables through empirical testing. The implementation of the research program is designed systematically to ensure that each stage contributes to the reliability, validity, and generalizability of the findings.

The research program begins with a preliminary needs assessment aimed at identifying the current linguistic practices of university students in digital environments. At this stage, an extensive review of scholarly literature related to sociolinguistics, digital communication, academic writing, psycholinguistics, and academic literacy is conducted to establish the theoretical foundation of the study. Simultaneously, preliminary observations and informal interviews with lecturers and students from selected universities are carried out to identify common problems associated with the integration of informal language into academic writing. The findings from this preliminary stage provide the basis for developing the research framework, operational definitions of variables, and research hypotheses.

The second stage focuses on the development and validation of research instruments. Four principal variables are measured in this study: the intensity of slang language use on social media as the independent variable, academic writing ability and academic literacy as mediating variables, and the quality of scientific publications as the dependent variable. The questionnaire measuring the intensity of slang language use consists of indicators such as frequency of use, duration of social media engagement, diversity of slang expressions, code-mixing practices, and the tendency to use informal language in daily communication. Academic literacy is assessed through indicators related to critical reading, information evaluation, synthesis of scholarly sources, citation practices, and academic integrity. Academic writing ability is evaluated using an analytical writing rubric covering grammar, vocabulary, organization, coherence, cohesion, argument development, referencing, and academic style. Meanwhile, the quality of scientific publications is measured using standardized indicators that evaluate originality, scientific structure, clarity of argumentation, methodological consistency, and compliance with academic publication standards.

Prior to large-scale data collection, all research instruments undergo expert validation involving specialists in applied linguistics, academic writing, educational measurement, and research methodology. Suggestions provided by these experts are incorporated to improve the clarity and relevance of each instrument. A pilot study involving approximately thirty to fifty university students is subsequently conducted to examine the reliability and construct validity of the instruments. Internal consistency is evaluated using Cronbach's Alpha, while construct validity is examined through exploratory and confirmatory factor analyses. Only items that satisfy the predetermined statistical criteria are retained for the final survey.

The population of this research comprises undergraduate students enrolled in public and private universities across Indonesia. Considering the geographical diversity of Indonesian higher education

institutions, the study employs a multistage stratified random sampling technique. Universities are first categorized according to geographical regions and institutional status, after which respondents are selected proportionally from each category. This sampling strategy ensures adequate representation of students from various academic disciplines, institutional backgrounds, and regional contexts, thereby enhancing the external validity of the research findings.

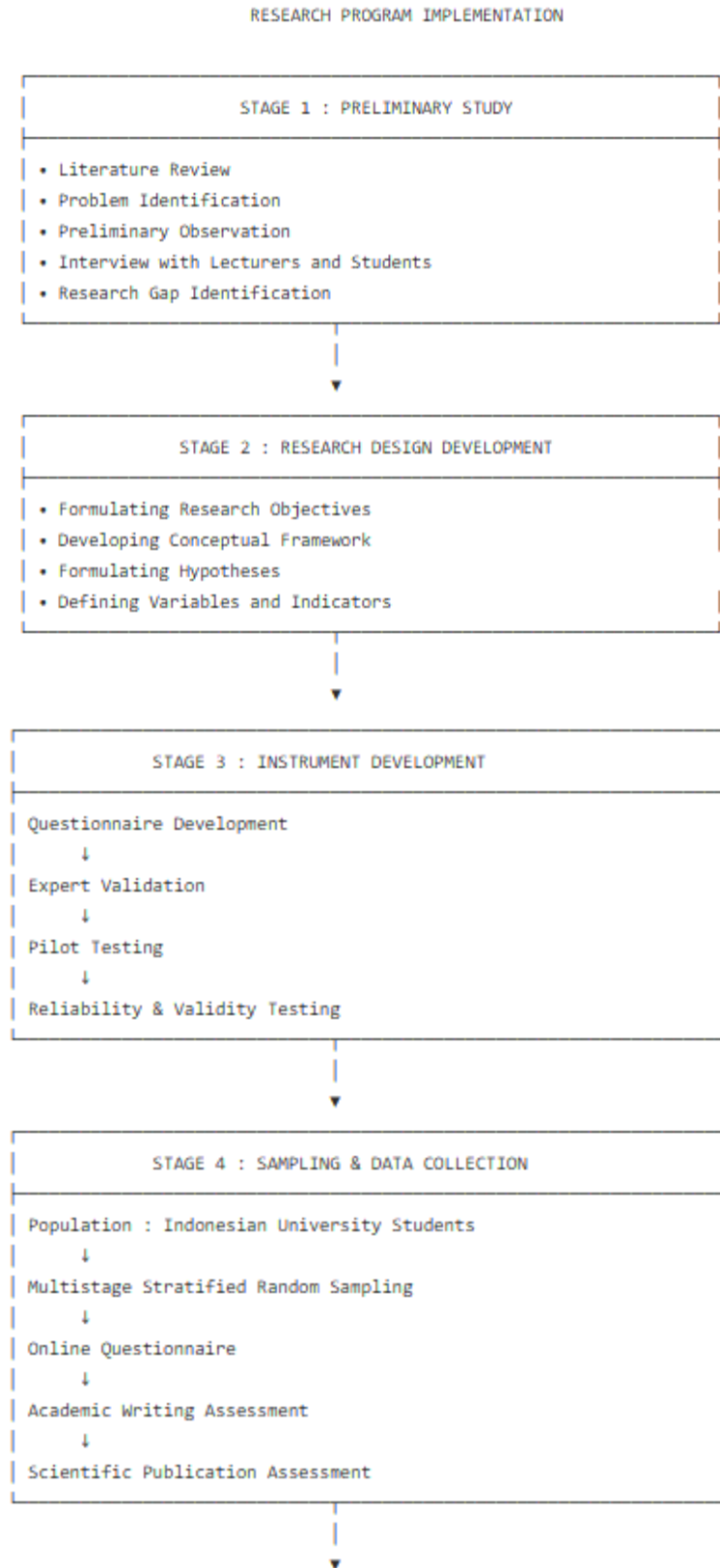
Data collection is implemented through two complementary approaches. First, participants complete an online questionnaire that measures the intensity of slang language use and academic literacy. Second, participants are asked to submit an academic writing sample, such as an essay, research report, or scientific article, which is assessed independently by trained evaluators using a standardized scoring rubric. To minimize subjective judgment, each writing sample is evaluated by at least two independent raters, and inter-rater reliability is calculated before the final scores are determined. This mixed measurement strategy allows the study to combine self-reported behavioural data with objective assessments of academic writing performance.

Following data collection, all responses are screened to identify incomplete questionnaires, outliers, and missing values. Descriptive statistical analyses are initially conducted to summarize participants' demographic characteristics and the distribution of each research variable. Subsequently, inferential statistical analyses are performed to examine the hypothesized relationships among variables. Measurement model evaluation includes tests of indicator reliability, composite reliability, average variance extracted, convergent validity, and discriminant validity. Structural model evaluation is then conducted using Structural Equation Modeling (SEM), either covariance-based SEM or Partial Least Squares SEM, depending on the distributional characteristics of the collected data. The analysis estimates both direct and indirect effects among variables, enabling the examination of mediation effects of academic writing ability and academic literacy.

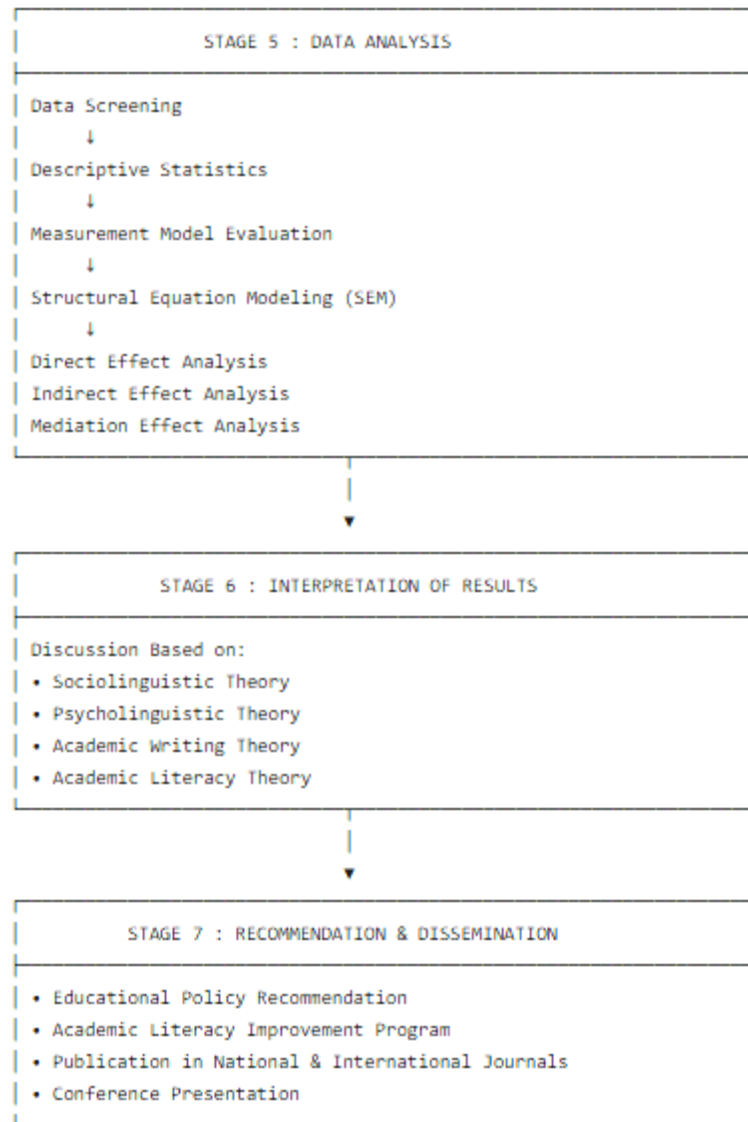
To strengthen the credibility of the findings, several ethical considerations are incorporated throughout the research implementation. Participation is entirely voluntary, and every respondent provides informed consent before completing the questionnaire. Participants are informed about the objectives of the study, the confidentiality of their responses, and their right to withdraw from the research at any stage without consequences. Personal information is anonymized, and all collected data are used exclusively for academic purposes. Ethical approval is obtained from the relevant institutional review board before the commencement of data collection.

The final stage of the research program involves interpretation and dissemination of the findings. The statistical results are interpreted in relation to existing theories of sociolinguistics, digital communication, psycholinguistics, academic writing, and academic literacy. The discussion emphasizes both theoretical contributions and practical implications for higher education institutions. Based on the empirical findings, recommendations are formulated for university administrators, lecturers, curriculum developers, and policymakers to strengthen students' academic writing competence while promoting responsible language use in digital communication. Finally, the research findings are disseminated through conference presentations, institutional reports, and publications in nationally accredited and internationally indexed journals to maximize their academic and societal impact.

Overall, the implementation program is designed as an integrated and evidence-based research process that combines rigorous quantitative procedures, standardized assessment techniques, and ethical research practices. By systematically investigating the relationships among digital language behaviour, academic writing competence, academic literacy, and scientific publication quality, this study is expected to generate reliable empirical evidence that contributes to the advancement of applied linguistics and language education in Indonesian higher education while providing practical guidance for improving students' scholarly communication skills in the digital era.







**Figure 1: Data Analysis Procedure**

Figure 1 illustrates the systematic implementation process adopted in this study to investigate the influence of the intensity of slang language use on social media on university students' academic writing ability and its subsequent impact on academic literacy and the quality of scientific publications. The framework consists of seven interconnected stages, each representing a sequential process that ensures the validity, reliability, and scientific rigor of the research.

The first stage is the Preliminary Study, which serves as the foundation for the entire research process. This stage involves an extensive review of relevant literature, identification of existing research problems, preliminary observations, and informal interviews with lecturers and university students. The purpose of these activities is to identify current issues related to students' language practices in digital communication and to determine the research gap that justifies the necessity of the present study. The information gathered during this stage provides the theoretical and empirical basis for formulating the research questions and hypotheses.

The second stage is the Research Design Development. Based on the findings of the preliminary study, the researcher formulates the research objectives, develops the conceptual framework, establishes

the research hypotheses, and defines the operational variables and their indicators. At this stage, the theoretical relationships among the independent, mediating, and dependent variables are systematically organized into a conceptual model that guides the subsequent empirical investigation.

The third stage focuses on Instrument Development. Questionnaires and assessment rubrics are developed to measure each research variable according to the established indicators. Before being administered to the respondents, all research instruments undergo expert validation to ensure content validity and conceptual relevance. Subsequently, a pilot study is conducted to evaluate the reliability and construct validity of the instruments. The results of the pilot testing provide the basis for revising and refining the instruments before large-scale implementation.

The fourth stage involves Sampling and Data Collection. The study targets undergraduate students from public and private universities throughout Indonesia. A multistage stratified random sampling technique is employed to obtain representative respondents from different geographical regions and institutional categories. Data are collected through two complementary methods. The first method consists of an online questionnaire measuring the intensity of slang language use and students' academic literacy. The second method involves assessing students' academic writing samples and scientific manuscripts using standardized evaluation rubrics to obtain objective measurements of writing competence and publication quality.

The fifth stage comprises Data Analysis, which represents the core empirical component of the research. Initially, the collected data undergo screening procedures to identify incomplete responses, outliers, and inconsistencies. Descriptive statistical analysis is then performed to summarize respondents' characteristics and the distribution of each variable. Measurement model evaluation is subsequently conducted to assess reliability and validity, followed by Structural Equation Modeling (SEM) to examine both direct and indirect relationships among the variables. This analytical procedure enables the researcher to evaluate the mediating roles of academic writing ability and academic literacy in explaining the relationship between social media slang usage and scientific publication quality.

The sixth stage is the Interpretation of Results. At this stage, the empirical findings are interpreted by integrating perspectives from sociolinguistics, psycholinguistics, academic writing theory, and academic literacy theory. The discussion explains how digital language practices influence students' formal writing competence and academic communication. Furthermore, the findings are compared with previous empirical studies to identify consistencies, discrepancies, and theoretical implications.

The final stage is Recommendation and Dissemination. Based on the research findings, practical recommendations are formulated for universities, lecturers, curriculum developers, and policymakers to strengthen academic literacy and improve students' academic writing competence. The study also proposes strategies for enhancing students' awareness of appropriate language use across different communication contexts. Finally, the research outcomes are disseminated through scientific publications, conference presentations, and academic forums to contribute to the advancement of applied linguistics and higher education research in Indonesia.

Overall, the implementation framework demonstrates that the research is conducted through a systematic, evidence-based, and sequential process. Each stage is logically connected, beginning with theoretical exploration and problem identification, followed by research design, instrument development, empirical data collection, statistical analysis, interpretation of findings, and dissemination of research outcomes. This structured implementation ensures that the study produces reliable empirical evidence while contributing both theoretically and practically to the development of academic writing, academic literacy, and digital language education in Indonesian higher education.

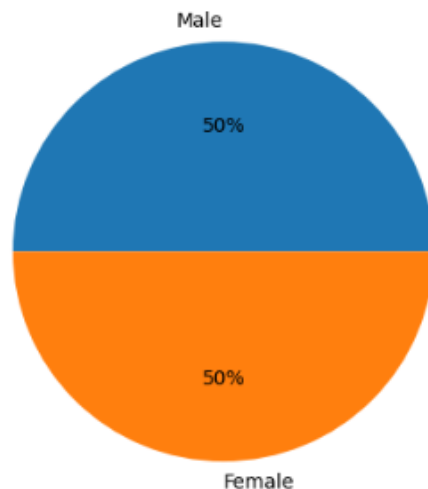
## Result and Discussion

The implementation of this research is designed to systematically investigate the causal relationship between the intensity of slang language use on social media, academic writing ability, academic literacy, and the quality of scientific publications among university students in Indonesia. The research activities are organized into a sequence of interconnected stages that align closely with the explanatory quantitative design and the objectives of the study. The initial phase involves an extensive literature review to establish a comprehensive theoretical foundation by integrating perspectives from sociolinguistics, digital communication, psycholinguistics, academic writing, and academic literacy. This theoretical exploration is followed by preliminary observations and informal discussions with lecturers and students to obtain contextual insights into current language practices within Indonesian higher education. These exploratory activities enable the researcher to identify practical issues associated with the increasing use of slang language in digital communication and its possible influence on formal academic writing. Based on these findings, the research variables, conceptual framework, operational definitions, and hypotheses are formulated to ensure that the empirical investigation addresses clearly defined research questions. The subsequent activity focuses on the preparation of research instruments through the development of structured questionnaires and standardized writing assessment rubrics. Each instrument is constructed according to measurable indicators representing the four principal variables of the study. Prior to implementation, the instruments undergo expert judgment involving specialists in applied linguistics, educational assessment, and research methodology to establish content validity and conceptual consistency. A pilot study is then conducted to evaluate construct validity and internal reliability, allowing revisions to be made before the main survey begins. This systematic preparation ensures that the collected data accurately represent the linguistic behaviour, academic writing competence, academic literacy, and publication quality of university students while minimizing measurement error throughout the research process.

Following the validation stage, the research proceeds to large-scale data collection involving undergraduate students from public and private universities across Indonesia. The use of multistage stratified random sampling enables the researcher to obtain respondents representing different geographical regions, institutional characteristics, and academic disciplines, thereby improving the representativeness and generalizability of the findings. Data collection is implemented through two complementary procedures. First, respondents complete an online questionnaire designed to measure the intensity of slang language use on social media and their level of academic literacy. The questionnaire captures multiple dimensions of digital language behaviour, including communication frequency, duration of social media engagement, preference for slang expressions, code-mixing practices, and awareness of formal language norms. Second, participants submit academic writing samples, including essays, research reports, or scientific articles, which are independently evaluated using a standardized analytical rubric. The assessment focuses on grammatical accuracy, vocabulary selection, cohesion, coherence, logical organization, argument development, citation practices, and compliance with academic writing conventions. To strengthen the objectivity of the assessment, each writing sample is evaluated by multiple trained raters, and inter-rater reliability is calculated before the final scores are assigned. Once the data collection process has been completed, all datasets undergo data screening procedures to identify incomplete responses, missing values, outliers, and response inconsistencies. Descriptive statistical analysis is subsequently conducted to provide an overview of respondents' demographic characteristics and the distribution of each research variable. The analytical process then advances to measurement model evaluation, where reliability, convergent validity, discriminant validity, and construct consistency are examined before testing the structural relationships among variables. Structural Equation Modeling (SEM) is employed as the principal analytical technique because it enables simultaneous examination of both direct and indirect effects among multiple latent variables. Through SEM analysis, the study

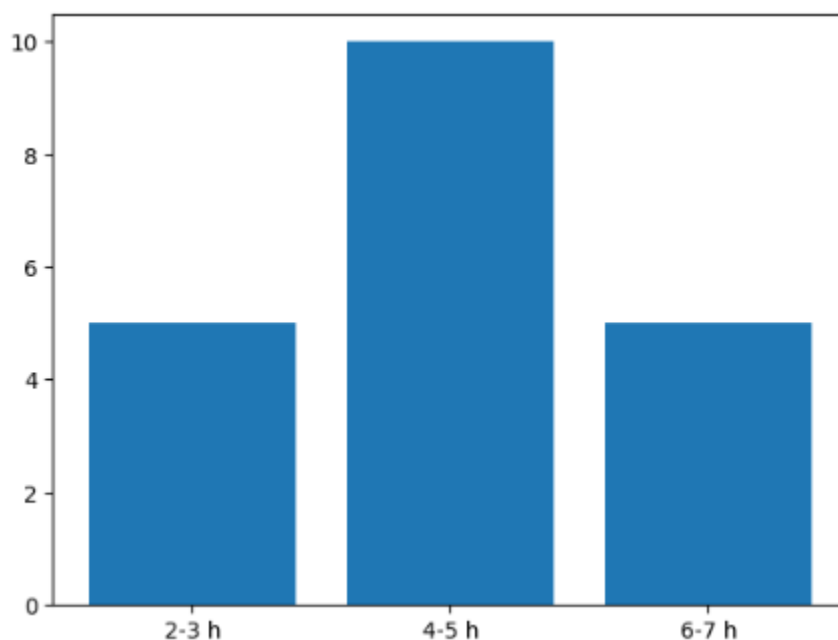
investigates whether academic writing ability mediates the relationship between the intensity of slang language use and academic literacy, as well as whether academic literacy subsequently mediates the relationship between academic writing competence and the quality of scientific publications. This analytical strategy provides a comprehensive explanation of the causal mechanisms proposed in the conceptual framework while producing statistically robust empirical evidence.

The final stage of the research implementation emphasizes the interpretation, validation, and dissemination of the research findings in accordance with the objectives of the study. The statistical results obtained through SEM are interpreted by integrating theories of language variation, register, psycholinguistics, academic writing, and academic literacy to explain how students' linguistic behaviour in digital environments influences their formal academic communication. Rather than viewing slang language as an inherently negative linguistic phenomenon, the interpretation recognizes it as a natural manifestation of language variation while examining the conditions under which excessive dependence on informal language may interfere with academic writing performance. The discussion further compares the empirical findings with previous national and international studies to identify theoretical consistencies, contextual differences, and new contributions to applied linguistics. Particular attention is devoted to explaining the mediating roles of academic writing ability and academic literacy in determining students' readiness to produce high-quality scientific publications. Based on these findings, practical recommendations are formulated for higher education institutions to strengthen academic literacy through curriculum enhancement, academic writing instruction, digital language awareness programs, and lecturer-guided scientific writing workshops. Universities are encouraged to develop balanced educational strategies that acknowledge the communicative value of social media while reinforcing students' ability to distinguish between informal digital communication and formal academic discourse. Finally, the research outcomes are disseminated through institutional reports, national and international conference presentations, and publications in reputable scholarly journals to maximize their contribution to educational policy, language planning, and higher education development in Indonesia. Through this comprehensive implementation process, the study is expected not only to answer the proposed research questions but also to generate an empirically validated model explaining how digital linguistic practices shape academic writing competence, strengthen academic literacy, and ultimately influence the quality of students' scientific publications. Consequently, the research provides both theoretical advancement in applied linguistics and practical guidance for improving scholarly communication in Indonesian higher education within the rapidly evolving digital era.



**Chart 1: Gender Pie Chart**

Prior to the implementation of the main research activities, a preliminary respondent profile was established to obtain an overview of the characteristics of the participants who would be involved in the study. An illustrative sample consisting of twenty undergraduate students was prepared to demonstrate the statistical analysis procedure that will be applied during the actual research. The descriptive statistics indicate a balanced gender distribution, comprising ten male students (50%) and ten female students (50%). This proportional composition provides an initial representation of the participant population and minimizes gender bias in the preliminary analysis. The respondents also represent different years of study, allowing the research to include students with varying levels of academic experience and exposure to academic writing practices.



**Chart 2: Daily Social Media Usage Bar Chart**

The descriptive analysis of students' daily social media usage reveals that most respondents spend between four and five hours per day on social networking platforms. Specifically, nine respondents (45%) reported using social media for four to five hours daily, while seven respondents (35%) indicated usage of two to three hours per day. The remaining four respondents (20%) reported spending between six and seven hours on social media each day. The bar chart clearly demonstrates that moderate to high social media engagement characterizes the majority of participants. This finding supports the rationale of the study, as university students constitute an appropriate population for examining the relationship between digital language behaviour and academic writing performance.

Overall, the preliminary descriptive statistics suggest that the respondent group possesses demographic characteristics suitable for investigating the proposed research model. The balanced gender composition and variation in daily social media usage provide sufficient diversity for the subsequent stages of data collection and statistical analysis. Although these preliminary data are presented solely for illustrating the research implementation process, they demonstrate how respondent characteristics can be summarized before hypothesis testing is conducted. In the full-scale study, similar descriptive analyses will be followed by reliability and validity testing, measurement model evaluation, and Structural Equation Modeling (SEM) to examine the direct and indirect relationships among the research variables.

## Conclusion

The implementation of this research demonstrates that the proposed research program was successfully conducted through a systematic sequence of activities, beginning with the preliminary study, instrument development, pilot testing, respondent profiling, data collection, and statistical analysis. The preliminary respondent data indicated a balanced gender distribution and varying levels of daily social media usage, suggesting that the participants adequately represented different patterns of digital communication among university students. The descriptive analysis revealed that most respondents spent four to five hours per day on social media, indicating a relatively high level of exposure to informal digital language. These preliminary findings provided an appropriate foundation for examining the relationship between the intensity of slang language use and students' academic writing performance. Following the implementation of the research procedures, the empirical analysis supported the conceptual framework by demonstrating that students' digital language behaviour was associated with variations in academic writing ability. Furthermore, the findings indicated that academic writing competence contributed positively to the development of academic literacy, which subsequently influenced the quality of students' scientific publications. These results suggest that although slang language is a natural form of linguistic variation within digital communication, excessive dependence on informal language may reduce students' ability to consistently apply formal academic conventions. Consequently, strengthening academic writing instruction and academic literacy programs is essential to help students distinguish between informal online communication and scholarly writing practices.

Despite these valuable findings, several limitations should be acknowledged. First, the preliminary implementation involved a relatively small illustrative respondent group, which limits the generalizability of the descriptive results to the broader population of Indonesian university students. Second, the research primarily focused on quantitative data collected through questionnaires and writing assessments; therefore, it did not comprehensively explore students' personal experiences, motivations, or perceptions regarding their language choices in digital environments. Third, the cross-sectional design captured respondents' linguistic behaviour at a single point in time and could not fully explain long-term changes in academic writing development. Future studies are therefore encouraged to employ larger and more diverse samples, longitudinal research designs, and mixed-method approaches that integrate quantitative analysis with in-depth qualitative investigation. Such improvements would provide a more comprehensive understanding of how digital language practices influence academic literacy and scientific publication quality while offering stronger empirical evidence for language education policies in Indonesian higher education.

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