The effect of interpersonal communication intensity and openness on self-esteem among communication students at Universitas Muhammadiyah Yogyakarta

[1] Muslimah*, [2] Erwin Rasyid

[1] Department of Communication Science, Universitas 'Aisyiyah Yogyakarta, 55292, Indonesia

[2] Department of Agribusiness, Universitas Lambung Mangkurat, Kalimantan Selatan, 70714, Indonesia

[1] imamuslimah842@gmail.com*; [2] erwinrasyid@ulm.ac.id

*Correspondent email author: imamuslimah842@gmail.com

ARTICLE INFO

ABSTRACT

Self-esteem is a crucial component of students' psychological well-being and is strongly shaped by the quality of interpersonal communication. This study investigates the influence of communication intensity and openness on the self-esteem of Communication Science students at Universitas Muhammadiyah Yogyakarta. A quantitative survey was conducted with 81 randomly selected respondents using a validated questionnaire. Data were analyzed through Pearson correlation and simple linear regression. The results indicate that openness has a moderate positive correlation with self-esteem ($r = 0.402$, $p < 0.05$), while intensity shows a lower yet significant correlation ($r = 0.363$, $p < 0.05$). Together, the two variables explain 16.2% of the variance in self-esteem, although only openness demonstrates a near-significant individual effect. These findings suggest that the quality of communication is more influential than its frequency in shaping self-esteem. The study contributes to communication science by extending Social Penetration Theory within the Indonesian context and emphasizing openness as a key factor in student development. Practically, the findings encourage universities to integrate open-communication training and peer-mentoring programs to support students' psychological well-being. The main limitation of this study is the relatively small sample and focus on a single program, which restricts generalizability. Future research should involve larger and more diverse populations and include additional variables such as emotional intelligence and social support to provide a more comprehensive understanding.

1. Introduction

Mental health is one of the most important aspects in students' academic and social development. During their college years, students face a wide range of challenges, including academic pressure, social adaptation, family expectations, and the demand to make important life decisions. These factors often contribute to psychological issues such as anxiety, low self-esteem, and emotional fatigue. Within this context, self-esteem becomes a crucial component of mental well-being that directly influences students' academic achievement and social interactions.

Self-esteem refers to the way individuals evaluate and appreciate themselves. Previous studies emphasize that self-esteem is shaped through interpersonal relationships, social support, and personal achievements (Tonder et al., 2023). Students who feel supported and valued tend to develop higher self-perception, while those who experience rejection or social isolation may develop negative self-concepts. In addition, self-esteem has been found to positively correlate with openness in peer communication and life satisfaction Szcześniak et al., (2022), while low self-esteem is associated with social avoidance and distress (Liu et al., 2025). Other research also highlights that self-esteem predicts interpersonal trust and is negatively associated with social anxiety (He, 2022; X. Yan, 2025). Collectively, these findings confirm that communication and social interaction are fundamental to the development of self-esteem (Nurhidayah & Fadillah, 2024).

For university students, particularly those majoring in Communication Science, interpersonal communication is central to both academic and professional success. Students are expected to demonstrate competence in expressing ideas, building networks, and collaborating with others. However, in reality, many students still struggle with performance pressure, social comparison, and environmental transitions (Jalan et al., 2023; Wang & Ye, 2023). In the Indonesian higher education context, where academic competition and family expectations are strong, these challenges can be even more pronounced. These challenges can hinder their ability to communicate effectively, leading to reduced self-esteem, especially when open and intense interpersonal interactions are lacking (Konijn et al., 2008).

Interpersonal communication plays a key role in shaping self-esteem because it enables individuals to express their thoughts, emotions, and identities while receiving feedback and social support. Among its various dimensions, intensity and openness are particularly important. Intensity refers to the frequency and duration of interactions, while openness reflects honesty, transparency, and emotional expressiveness (Fazhari & Rudianto, 2021). These dimensions are central in Social Penetration Theory, which argues that self-disclosure and openness strengthen relational trust and intimacy, conditions that are fundamental for the development of self-esteem (Alwahaishi et al., 2024; Ashuri & Halperin, 2024). Yet, empirical studies that specifically test these dimensions in the Indonesian higher education context remain scarce, leaving a gap in understanding how intensity and openness operate among Communication Science students. The common assumption that communication students are always socially skilled is misleading. In reality, the quantity of communication (intensity) is not always accompanied by quality (openness), which may differently affect students' self-esteem (Kırcaburun et al., 2019).

While prior research in Western and Asian contexts Shim et al., (2024) highlights how openness and self-disclosure foster self-esteem, little is known about how these dynamics operate among Indonesian students, who navigate collectivist cultural norms and strong academic expectations. This cultural distinction underscores the urgency of examining interpersonal communication within Indonesian higher education, particularly among Communication Science students (Chu et al., 2023; Forest et al., 2023). This gap is significant because cultural and educational settings can shape communication patterns and self-perception differently. Understanding this relationship is therefore urgent, not only to strengthen the theoretical discourse on interpersonal communication and self-esteem but also to provide practical insights for developing supportive academic environments in Indonesia.

Despite growing international attention on the link between communication and self-esteem Shang et al., (2025), studies in the Indonesian higher education context, particularly among Communication Science students, remain limited. This gap is important because cultural and educational settings may shape communication patterns and self-perception differently.

Based on this background, this study aims to examine the influence of interpersonal communication intensity and openness on the self-esteem of Communication Science students at Universitas Muhammadiyah Yogyakarta. Theoretically, the study extends the application of Social Penetration Theory into the Indonesian context, while practically, it offers recommendations for universities to foster open communication and peer support programs to enhance student well-being.

2. Theoretical Framework

Fig. 1, illustrates the theoretical framework developed in this study, integrating Social Penetration Theory (SPT), Social Exchange Theory (SET), Uncertainty Reduction Theory (URT), and Self-Esteem Theory. The model highlights the hypothesized relationships in which communication intensity and communication openness influence students' self-esteem through relational quality and trust. This framework provides the basis for testing the proposed hypotheses and connecting interpersonal communication dimensions with self-esteem in the academic context.
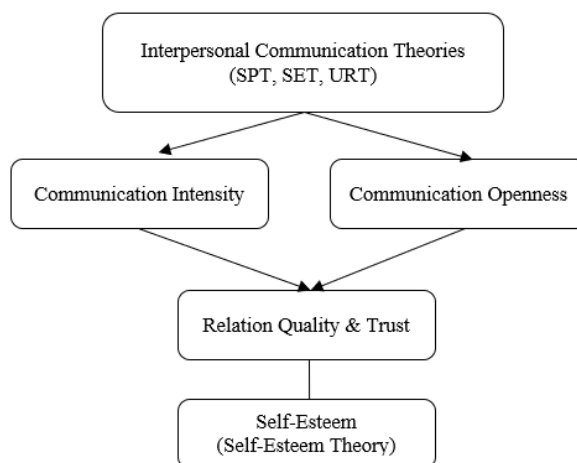

Fig. 1.   Conceptual framework of the influence of interpersonal communication intensity and openness on self-esteem

Interpersonal Communication Theory

Interpersonal communication is a relational process where individuals exchange messages, build trust, and form social bonds (Tonder et al., 2023). Two dimensions are emphasized in this study: communication intensity (frequency and duration of interaction) and communication openness (willingness to share personal thoughts and emotions). These dimensions are supported by several theoretical perspectives: (a) Social Penetration Theory (SPT) argues that relationships deepen through self-disclosure. The higher the openness, the stronger the sense of acceptance, which supports the development of self-esteem (Szcześniak et al., 2022). Recent empirical evidence confirms the continuing relevance of this theory. Yan et al., (2024) found in their meta-analysis that openness in communication is strongly shaped by trust, perceived benefit, and privacy concerns, which directly impact self-esteem. Similarly, Ruppel et al., (2017) highlighted that self-disclosure remains a key predictor of relational quality in both online and offline settings. (b) Social Exchange Theory (SET) highlights that students value communication that offers emotional rewards and minimizes relational costs. Frequent and supportive interactions enhance a sense of personal worth (He, 2022). Uncertainty Reduction Theory (URT) explains that in new academic settings, students communicate to reduce uncertainty, which helps build relational comfort and confidence (Tonder

et al., 2023). These theories suggest that intensity and openness are not only quantitative but also qualitative, shaping trust and relational depth, which are critical antecedents of self-esteem (Chen & Li, 2017).

Self-Esteem Theory

Self-esteem refers to the individual's evaluation of their own worth, influencing resilience, confidence, and social adaption. Recent studies confirm that interpersonal communication plays a central role in shaping self-esteem among students. For example, Szcześniak et al., (2022) found that communication with peers mediates the relationship between self-esteem and life satisfaction. Similarly, Shang et al., (2025) emphasized that students with stronger social connections and open communication demonstrate higher resilience and lower social avoidance.

In the university context, frequent and open communication provides social validation, peer support, and positive feedback, all of which strengthen students' self-esteem (Tonder et al., 2023). High self-esteem, in turn, enables students to engage more actively in academic and social environments, enhancing both competence and well-being.

Conceptual Linkage to Hypotheses. Based on these perspectives, the theoretical framework posits that: (1) Communication Intensity → Self-Esteem: Frequent interactions create opportunities for validation and social support, thereby enhancing self-worth. (2) Communication Openness → Self-Esteem: Openness fosters trust and deeper bonds, leading to stronger self-esteem.

Thus, the integration of interpersonal communication theories and self-esteem theory provides a solid foundation for hypothesizing that higher intensity and openness of communication positively affect students' self-esteem.

3. Method

Fig. 2, presents the methodological design of this study, showing the sequential process from population and sample selection, ethical considerations, data collection, instrument validation, and reliability testing, to data analysis using correlation and regression. This visual overview highlights how the study was structured and implemented. Specifically, the research employed a quantitative approach with a correlational design to examine the influence of interpersonal communication intensity and openness on students' self-esteem, conducted among undergraduate students of the Communication Science Program at Universitas Muhammadiyah Yogyakarta.

Population and Sample

The population consisted of all active undergraduate students in the Communication Science Program. Using simple random sampling, a total of 81 respondents were selected, ensuring each member of the population had an equal chance to be included. The sample size was considered adequate based on methodological recommendations in social sciences, which suggest that a minimum of 30 respondents is sufficient for correlation and regression analysis, while larger samples (≥ 50) provide greater statistical power and reliability (Creswell & Creswell, 2018). Therefore, 81 participants met the requirements for parametric statistical analysis. The sampling frame consisted of active students enrolled in the Communication Science Program in the 2023/2024 academic year. A student list obtained from the faculty administration was used to ensure random selection.

Research Ethics

Before participation, respondents received an informed consent form attached to the online questionnaire. They were informed about the objectives of the study, the voluntary nature of participation, and confidentiality assurance. Data were collected anonymously, ensuring

participants' privacy and adherence to ethical research standards. This research was conducted in accordance with ethical principles for human subjects, ensuring respect, beneficence, and confidentiality.

Data Collection Instrument

Data were collected using an online questionnaire distributed via Google Forms. The instrument consisted of three sections, representing the main research variables:
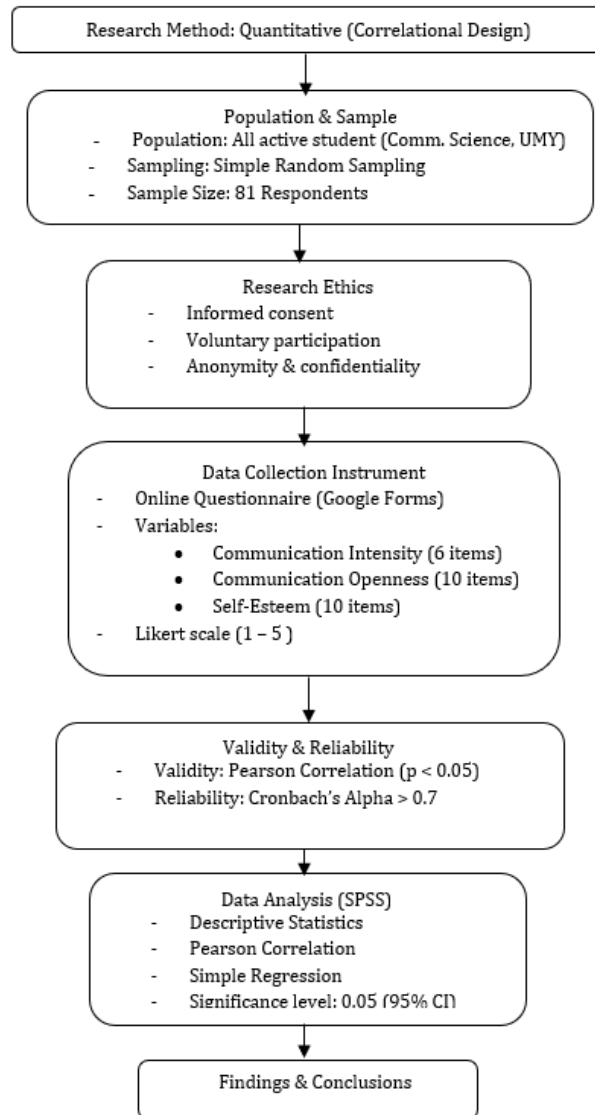

Fig. 2. Conceptual diagram of the research metod applied in this study

(a) Interpersonal Communication Intensity (6 items), Example item: I frequently engage in conversations with my peers about academic and personal matters. (b) Interpersonal Communication Openness (10 items), Example item: I am willing to share my feelings and personal experiences with my friends. (c) Self-Esteem (10 items), Example item: I feel that I am a person of worth, at least on an equal plane with others. All items were adapted from validated instruments in previous research and adjusted to the student context. A five-point Likert scale was used, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Validity and Reliability

Instrument validity was tested using the Pearson Product-Moment correlation, and all items met the significance threshold (p < 0.05), indicating that they were valid and reliability was tested using Cronbach's Alpha, and all variables exceeded 0.7, confirming a high level of internal consistency. According to methodological standards, a Cronbach's Alpha value above 0.70 indicates acceptable internal consistency (Tavakol & Dennick, 2011). The collected data were analyzed using SPSS (Statistical Package for the Social Sciences). Descriptive statistics were employed to summarize respondent characteristics and overall response trends (Bremer et al., 2019; C. You & Zhong, 2022). To examine relationships between variables, Pearson correlation analysis was conducted. Furthermore, simple linear regression was used to measure the influence of each independent variable on self-esteem, while multiple linear regression assessed the combined effects of communication intensity and openness. All statistical tests were conducted at a 0.05 significance level with a 95% confidence interval.

4. Result and Discussion

As seen in Table 1, the pearson correlation analysis indicates a significant positive relationship between the intensity of interpersonal communication and students' self-esteem (r = 0.363, p = 0.001). Although statistically significant, the strength of this relationship falls within the low correlation category, suggesting that more frequent interpersonal communication is associated with higher self-esteem, albeit with a relatively weak effect.

Table 1. Correlation Between Communication Intensity and Self-Esteem

Variable	Pearson Correlation	Sig (2-tailed)
Intensity of Interpersonal Communication	0.363	0.001

Table 2. Correlation Between Communication Openness And Self-Esteem

Variable	Pearson Correlation	Sig (2-tailed)
Openness of Interpersonal Communication	0.402	0.000

As seen in Table 2, the pearson correlation analysis demonstrates a significant positive relationship between communication openness and self-esteem (r = 0.402, p < 0.001). This result falls into the moderate correlation category, indicating that students who communicate more openly tend to report higher levels of self-esteem.

Table 3. Simple Regression Effect Of Communication Intensity On Self-Esteem

Variable	B	SE	Beta	t	sig
Intensity	-0.036	0.313	-0.030	-0.116	0.908

As seen in Table 3, the simple regression analysis reveals that communication intensity does not have a significant effect on self-esteem (B = –0.036, p = 0.908). This indicates that the frequency of interpersonal interactions alone is not sufficient to predict or enhance students' self-esteem.

As seen in Table 4, the simple regression analysis shows that communication openness has a positive but only marginal effect on self-esteem (B = 0.356, p = 0.098). This suggests that while

greater openness in interpersonal communication tends to be associated with higher self-esteem, the effect does not reach statistical significance at the 0.05 level.

Table 4. Simple Regression Effect Of Communication Openness On Self-Esteem

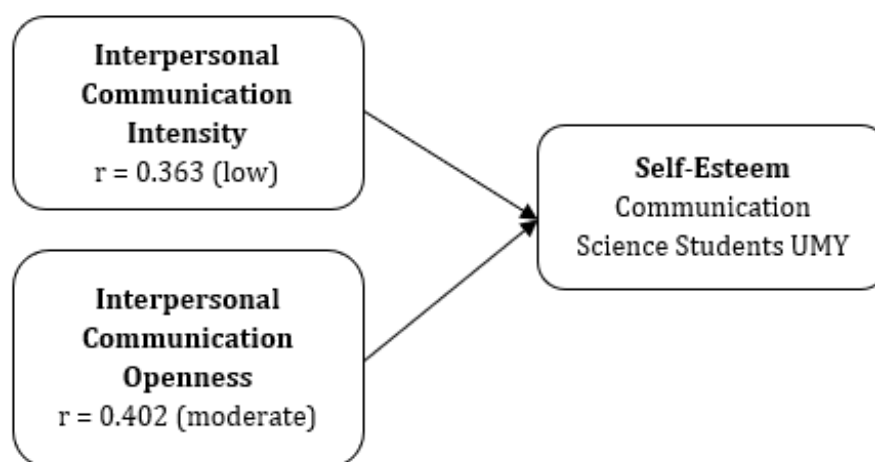| Variable	B	SE	Beta	t	sig
Openness	0.356	0.212	0.429	1.677	0.098

Fig. 3. Conceptual diagram of the influence of interpersonal communication intensity and openness on self-esteem

Fig. 3, illustrates the conceptual framework tested in this study. As the results indicate, both communication intensity and openness show positive correlations with self-esteem, although with varying degrees of significance. The following sections discuss each relationship in detail.

Effect of Intensity

The correlation result of $r = 0.363$ ($p < 0.05$) indicates a low positive relationship between communication intensity and self-esteem; however, partial regression analysis shows that the effect is not significant ($p = 0.908$). This suggests that frequency of interaction alone is not sufficient to enhance self-esteem. Consistent with Ponco, (2018), interpersonal communication is not merely a matter of quantity, but of the quality of meaning exchange and trust. Students who frequently communicate but engage in shallow or negative interactions may not experience an increase in self-esteem (Effendy, 2003). Supporting this, Szcześniak et al., (2022) found that peer communication contributes to higher self-esteem and life satisfaction only when it is open and supportive, whereas superficial communication fails to strengthen psychological well-being. Similarly, Zheng et al., (2022) demonstrated that face-to-face interactions are more influential than digital communication in improving mental health and self-esteem, emphasizing that the quality of communication matters more than its frequency. These findings resonate with Tonder et al., (2023), who showed that self-esteem and interpersonal communication competence significantly reduce loneliness among university students, reinforcing the idea that the depth of interaction is more important than its frequency.

Effect of Openness

Openness is more strongly associated with self-esteem ($r = 0.402$; $p < 0.05$) and shows a nearly significant partial effect ($p = 0.098$). This finding aligns with Social Penetration Theory, which posits

that self-disclosure strengthens relationships, builds trust, and fosters social acceptance conditions necessary for the development of self-esteem. Forest et al., (2023) demonstrate that individuals with higher self-esteem tend to engage in more self-disclosure and perceive greater responsiveness from others, thereby enhancing relational intimacy. Similarly, (Chu et al., 2023) found that self-disclosure on social media is positively linked to psychological well-being and self-esteem, confirming that openness promotes feelings of validation and acceptance. Furthermore, Haq et al., (2025) highlight that different forms of self-disclosure evoke varying levels of social engagement, reinforcing the idea that the quality of openness plays a critical role in strengthening self-image and relationship quality.

These findings are further corroborated by Collins & Miller, (1994), whose meta-analytic model underscores the importance of openness as a predictor of relational quality and psychological well-being. In line with this, the present research demonstrates that openness exerts a stronger influence on students' self-esteem compared to communication intensity. This suggests that not only the frequency of communication but also its quality characterized by trust and meaningful disclosure plays a critical role in strengthening self-esteem among students. These findings are also in line with You & Shin, (2016), who found that Korean college students experiencing body dissatisfaction often reported poorer mental health outcomes, including lower self-esteem. Their study highlights that students' psychological well-being is strongly influenced by supportive communication and social validation, thereby reinforcing the importance of openness in fostering self-esteem.

Integration of Theory and Previous Research

From the perspective of communication psychology, these findings support the self-esteem theory proposed by Enting et al., (2025), who demonstrated dynamic within-day associations between momentary self-esteem and the quality of social interactions using experience sampling methodology. Individuals who feel accepted, valued, and heard consistently report higher self-esteem. This aligns with He, (2022), who emphasized the role of interpersonal trust and supportive communication in reducing social anxiety and enhancing students' self-esteem. Furthermore, Forest et al., (2023) highlighted that self-esteem influences self-disclosure and responsiveness in intimate relationships, suggesting that openness strengthens relational bonds and contributes to healthier self-concepts.

On the other hand, it is also important to note that the relationship between interpersonal communication and self-esteem is not entirely deterministic. While intensity and openness in communication contribute to self-esteem, other variables such as family background, childhood experiences, cultural values, individual psychological conditions, and social expectations may also play a role. This urgency is consistent with the WHO, (2020), which reported that psychological problems, including depression and suicide, remain major global health concerns, highlighting the importance of fostering healthy interpersonal communication to support student well-being. In this respect, the present study only examines two aspects of interpersonal communication and does not account for other influential variables.

Practical Implications

Practically, this study offers important implications for student development programs. The university, particularly the Communication Science Program, could integrate interpersonal communication training into extracurricular activities and non-academic curricula. A concrete example would be peer-mentoring programs, where senior students are trained as mentors to develop active listening, assertive communication, and empathy. The presence of supportive mentors is expected to create an open and conducive communication environment for freshmen.

Furthermore, student development can be enriched through small-group activities such as role-play simulations, reflective discussions, and self-disclosure exercises in a safe setting. Through these approaches, students not only learn communication theories but also internalize values of healthy communication. Well-structured student development initiatives have the potential to enhance self-esteem and psychological well-being, ensuring that higher education fosters not only intellectual competence but also character growth and self-confidence.

This study has several limitations that should be taken into account. The sample was limited to 81 students from a single program, which restricts the generalizability of the findings to broader student populations. The correlational quantitative design employed in this study was also unable to fully capture the complexities and dynamics of interpersonal communication. In addition, the use of self-report instruments carries the risk of social desirability bias, as participants may have tended to respond in ways they perceived as socially acceptable rather than providing completely accurate reflections of their experiences.

Furthermore, it should be emphasized that this research is correlational in nature and therefore cannot be used to draw causal conclusions. Complementary to this, findings from the Beckers et al., (2023) show that self-esteem mediates the relationship between peer problems and psychological well-being, highlighting the importance of emotional factors such as negative affectivity in understanding interpersonal dynamics. In other words, the findings should not be interpreted as interpersonal communication directly causing an increase in self-esteem. Rather, the study merely demonstrates the existence of statistically significant relationships among the variables investigated.

Future studies are encouraged to employ larger and more diverse samples across multiple universities to strengthen the external validity of the findings. The adoption of qualitative or mixed-method approaches would allow researchers to explore the lived experiences of interpersonal communication more comprehensively, beyond what is captured by numerical correlations. Moreover, subsequent research should consider incorporating additional variables such as social support, emotional intelligence, and cultural context to provide a more holistic understanding of the factors influencing self-esteem. It would also be valuable to investigate the potential moderating effects of gender, organizational involvement, and personality type, as these factors may shape the extent to which communication intensity and openness affect self-esteem in different student populations.

In general, this study reinforces the importance of interpersonal communication in shaping students' self-esteem. Openness (quality) proves more influential than intensity (quantity). Based on correlation and model testing, H_a is accepted: there is a significant influence of interpersonal communication intensity and openness on the self-esteem of UMY Communication Science students, as reflected in $R^2 = 0.162$ (16.2%) and model significance ($p < 0.05$). However, at the partial level, only openness approaches significance, while intensity does not show a significant effect.

5. Conclusion

This study demonstrates that interpersonal communication plays an important role in shaping the self-esteem of Communication Science students at Universitas Muhammadiyah Yogyakarta. The findings confirm that openness is more influential than intensity, as students who are able to communicate openly and authentically tend to feel more accepted and valued, which strengthens their self-perception. Meanwhile, communication intensity, although positively correlated with self-esteem, does not show a significant individual effect, suggesting that frequency alone is

insufficient without meaningful depth in interactions. Practically, these results highlight the need for universities and lecturers to create learning environments that foster openness in communication. Programs such as peer-mentoring, role-play exercises, and reflective discussions could help students develop confidence, active listening skills, and the ability to express themselves constructively. Such initiatives not only support psychological well-being but also enhance academic and professional readiness in the field of communication.

Beyond its practical contributions, this research also enriches communication science by emphasizing the importance of communication quality over mere quantity in interpersonal contexts. Although the study is limited by its correlational design and relatively narrow sample, it provides a foundation for future studies to explore broader variables such as cultural values, emotional intelligence, or gender differences using qualitative or mixed-method approaches. In doing so, the field can gain a deeper understanding of how interpersonal communication interacts with diverse factors to shape self-esteem and student development.

Acknowledgment

References

Alwahaishi, S., Al-Ahmadi, M. S., Ali, Z., & Al-Jabri, I. (2024). Self-Disclosure on Social Media: Do Personality Traits Matter? *Sage Open*. https://doi.org/10.1177/21582440241255754

Ashuri, T., & Halperin, R. (2024). Online self-disclosure: An interdisciplinary literature review of 10 years of research. *New Media &Society*. https://doi.org/10.1177/14614448241247313

Beckers, D., Larsen, J. K., & Burk, W. J. (2023). Self-esteem and negative affectivity as mediators of the prospective links between adolescent interpersonal peer problems and disordered eating behaviors. *Appetite*, *186*, 106558. https://doi.org/10.1016/j.appet.2023.106558

Bremer, V., Funk, B., & Riper, H. (2019). Heterogeneity Matters: Predicting Self-Esteem in Online Interventions Based on Ecological Momentary Assessment Data. *Depression Research and Treatment*, *2019*, 3481624. https://doi.org/10.1155/2019/3481624

Chen, H. T., & Li, X. (2017). The contribution of mobile social media to social capital and psychological well-being: Examining the role of communicative use, friending and self-disclosure. *Computers in Human Behavior*. https://www.sciencedirect.com/science/article/pii/S0747563217303825

Chu, T. H., Sun, M., & Jiang, L. C. (2023). Self-disclosure in social media and psychological well-being: A meta-analysis. *Journal of Social and Personal Relationships*. https://doi.org/10.1177/02654075221119429

Collins, N. L., & Miller, L. C. (1994). Self-disclosure and liking: A meta-analytic review. *Psychological Bulletin*, *116*(3), 457–475. https://doi.org/10.1037/0033-2909.116.3.457

Creswell, J. W., & Creswell, J. D. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches - John W. Creswell, J. David Creswell - Google Books. In *SAGE Publications, Inc.*

Effendy, O. U. (2003). Ilmu, Teori dan Filsafat Komunikasi. In *Citra Aditya*.

Enting, M., Jongerling, J., & Reitz, A. K. (2025). Self-esteem and social interactions in daily life: An experience sampling study. *European Journal of Personality*, *39*(5), 697–714. https://doi.org/10.1177/08902070241292987

Fazhari, S., & Rudianto, R. (2021). Influence of interpersonal communication of chairman and employees on employee performance Inna Parapat Hotel and Resort. *COMMICAST*, *3*(1), 158–163. https://doi.org/10.12928/commicast.v3i1.3510

Forest, A. L., Sigler, K. N., Bain, K. S., O'Brien, E. R., & Wood, J. V. (2023). Self-esteem's impacts on intimacy-building: Pathways through self-disclosure and responsiveness. *Current Opinion in Psychology*. https://www.sciencedirect.com/science/article/pii/S2352250X23000416

Haq, E.-U., Jangra, S., De, S., Sastry, N., & Tyson, G. (2025). Unpacking the Layers: Exploring Self-Disclosure Norms, Engagement Dynamics, and Privacy Implications. *Companion Proceedings of the ACM on Web Conference 2025*, 1890–1899. https://doi.org/10.1145/3701716.3717740

He, X. (2022). Relationship between Self-Esteem, Interpersonal Trust, and Social Anxiety of College Students. In *Occupational Therapy International*. Wiley Online Library. https://doi.org/10.1155/2022/8088754

Jalan, A., Matkovskyy, R., Urquhart, A., & Yarovaya, L. (2023). The role of interpersonal trust in cryptocurrency adoption. *Journal of International Financial Markets, Institutions and Money*. https://www.sciencedirect.com/science/article/pii/S1042443122001871

Kırcaburun, K., Kokkinos, C. M., Demetrovics, Z., Király, O., Griffiths, M. D., & Çolak, T. S. (2019). Problematic Online Behaviors among Adolescents and Emerging Adults: Associations between Cyberbullying Perpetration, Problematic Social Media Use, and Psychosocial Factors. *International Journal of Mental Health and Addiction*, *17*(4). https://doi.org/10.1007/s11469-018-9894-8

Konijn, E. A., Utz, S., Tanis, M., & Barnes, S. B. (2008). Mediated interpersonal communication. In *Mediated Interpersonal Communication*. https://doi.org/10.4324/9780203926864

Nurhidayah, S., & Fadillah, D. (2024). Political communication strategies of local politicians in the political constellation of legislative elections at the Regency/City level. *COMMICAST*, *5*(2), 21–39. https://doi.org/10.12928/commicast.v5i2.10746

Ponco, D. (2018). Ilmu komunikasi. In *Bandung Rosdakarya*.

Ruppel, E. K., Gross, C., Stoll, A., Peck, B. S., & Allen, M. (2017). Reflecting on connecting: Meta-analysis of differences between computer-mediated and face-to-face self-disclosure. *Journal of Computer-Mediated Communication*. https://academic.oup.com/jcmc/article-abstract/22/1/18/3976923

Shang, A., Feng, L., Yan, G., & Sun, L. (2025). The relationship between self-esteem and social avoidance among university students: chain mediating effects of resilience and social distress. In *BMC psychology*. Springer. https://doi.org/10.1186/s40359-025-02444-2

Shim, H., Cho, J., & Sung, Y. H. (2024). Unveiling secrets to AI agents: Exploring the interplay of conversation type, self-disclosure, and privacy insensitivity. In *Asian Communication Research*. acr.comm.or.kr. https://acr.comm.or.kr/xml/41457/41457.pdf

Szcześniak, M., Bajkowska, I., Czaprowska, A., & Silenska, A. (2022). Adolescents' self-esteem and life satisfaction: Communication with peers as a mediator. In *International journal of Environ. Res. Public Health*. mdpi.com. https://www.mdpi.com/1660-4601/19/7/3777

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. In *International journal of medical Education*. pmc.ncbi.nlm.nih.gov. https://pmc.ncbi.nlm.nih.gov/articles/PMC4205511/

Tonder, J. I. van, Jordaan, J., & Esterhuyse, K. (2023). Self-esteem, interpersonal communication competence, and media and technology usage as predictors of loneliness among university students. *Sage Open*. https://doi.org/10.1177/21582440221148379

Wang, X., & Ye, M. (2023). Does interpersonal trust matter? the influence of interpersonal trust on haze risk perception. *Environmental Sociology*. https://doi.org/10.1080/23251042.2023.2234647

WHO. (2020). *Immunisation coverage*. World Health Organization.

Yan, R., Gong, X., Xu, H., & Yang, Q. (2024). Seeing the forest and the trees: a meta-analysis of the antecedents to online self-disclosure. *Internet Research*. https://doi.org/10.1108/intr-05-2022-0358

Yan, X. (2025). Interpersonal Trust. In *The ECPH Encyclopedia of Psychology*. Springer.

You, C., & Zhong, Y. (2022). The Effect of Nostalgic Contents on Self-Esteem: The Mediating Role of Loneliness. *Psychology Research and Behavior Management*, *15*, 1587–1599. https://doi.org/10.2147/PRBM.S366135

You, S., & Shin, K. (2016). Body Dissatisfaction and Mental Health Outcomes Among Korean College Students. *Psychological Reports*, *118*(3), 714–724. https://doi.org/10.1177/0033294116648634

Zheng, M., Peng, K., Yan, W., Lin, Y., Ni, Z., & Zhang, P. (2022). Self-control protects Tibetan adolescent orphans from mental problems: A mediating role of self-esteem. *Journal of Adolescence*, *94*(2), 253–263. https://doi.org/10.1002/jad.12025