

The Influence of Emotion Regulation and Social Intelligence on Empathy in Young Adults

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Abstract

Background: The massive digital environment challenges empathy development due to reduced face-to-face interactions and nonverbal cues. **Objective:** This study aims to analyze the influence of emotion regulation and social intelligence on empathy in young adults and to examine the potential mediating role of social intelligence. **Method:** Using a quantitative cross-sectional design, data were collected from 341 Indonesian young adults using the DERS-SF, TSIS, and IRI scales. Data analysis was performed using multiple linear regression and path analysis with bootstrapping. **Result:** Simultaneous test results showed that emotion regulation and social intelligence significantly influence empathy ($F = 18.452$, $p < 0.001$), although their effective contribution was 9,8%. Social intelligence ($t = 6.075$, $p < 0.001$) and emotion regulation ($t = 2.351$, $p = 0.019$) were significant predictors of empathy. **Conclusion:** These findings confirm that effective emotional management and socio-cognitive skills are key developmental tasks for young adults. The low R-square value (9,8%) indicates that emotion regulation and social intelligence explain a small proportion of empathy's variance, while the remaining 90.2% being attributable to other external factors.

Keywords: emotion regulation; empathy; social intelligence; young adults; emotional management

Abstrak

Latar Belakang: Lingkungan digital yang masif menghadirkan tantangan bagi perkembangan empati akibat berkurangnya interaksi tatap muka dan isyarat nonverbal. **Tujuan:** Penelitian ini bertujuan untuk menganalisis pengaruh regulasi emosi dan kecerdasan sosial terhadap empati pada usia dewasa muda serta menguji potensi peran mediasi kecerdasan sosial. **Metode:** Menggunakan desain kuantitatif cross-sectional, data dikumpulkan dari 341 dewasa muda Indonesia menggunakan skala DERS-SF, TSIS, dan IRI. **Hasil:** Analisis data dilakukan dengan regresi linier berganda dan path analysis dengan bootstrapping. Hasil uji simultan menunjukkan bahwa regulasi emosi dan kecerdasan sosial secara signifikan mempengaruhi empati ($F = 18,452$, $p < 0,001$), meskipun kontribusi efektif total sebesar 9,8%. Baik kecerdasan sosial ($t = 6,075$, $p < 0,001$) maupun regulasi emosi ($t = 2,351$, $p = 0,019$) merupakan prediktor empati yang signifikan. **Kesimpulan:** Temuan ini menegaskan bahwa manajemen emosi yang efektif dan keterampilan sosio-kognitif penting untuk tugas perkembangan kunci bagi dewasa muda Indonesia. Nilai R-square yang sangat rendah (9,8%) secara eksplisit menunjukkan bahwa regulasi emosi dan kecerdasan sosial hanya menjelaskan sebagian kecil varians empati, dengan sebagian besar (90,2%) disebabkan oleh faktor eksternal lainnya.

Kata kunci: dewasa muda; empati; kecerdasan sosial; regulasi emosi

Introduction

Empathy is the ability to understand and feel the feelings of others, and it has become a primary focus in social psychology, particularly in young adulthood where individuals face complex interpersonal challenges (Decety & Holvoet, 2021). At this developmental stage, emotion regulation is viewed as the ability to manage emotional responses and social intelligence, the ability to understand and interact effectively in social contexts are considered key factors influencing levels of empathy (Konrath, 2024). However, in the current digital era, where social interaction is often confined to virtual platforms, empathy may be undermined by reduced opportunities to develop emotion regulation and social intelligence, which can elevate risks for problems such as social isolation and emotional disturbances. While Bozzola et al. (2022) discuss this primarily in children and adolescents, similar dynamics may also be relevant in young adulthood.

Indonesia presents a unique and urgent case study. As the country with the fourth-largest population in the world and an ongoing demographic bonus, Indonesian youth are a strategic segment of the population (Aberth, 2024). The 2023 and 2024 Indonesian Youth Statistics Reports published by the Central Statistics Agency (BPS) provide undeniable quantitative data regarding the centrality of technology in their lives. BPS data indicates that internet penetration and social media usage among Indonesian youth have reached high saturation levels. It is estimated that approximately 86.55% of Indonesian youth use social media (databoks, 2024). This figure is not merely a statistic of technology consumption; it is a redefinition of social habitat. For nearly 9 out of 10 Indonesian youths, social media is no longer just a "tool" but an "environment" where they live, learn, work, and love (BPS, 2024). The Digital 2024 Indonesia report reinforces this fact by showing that digital activity covers a broad spectrum, ranging from entertainment and news seeking to rapidly increasing digital banking financial transactions.

The sociological implications of this 86.55% figure are massive. This means that the processes of socialization, identity formation, and interpersonal skill development for the majority of Indonesian youth are now mediated by algorithms. Face-to-face interaction, while it still exists, often becomes secondary or runs parallel to digital interaction (phubbing—ignoring the person in front of you for a device) (Data Reportal, 2024). This high level of digital activity raises concerns about the erosion of direct empathy skills (Nauvan et al, 2024). According to psychosocial development theory, the primary task of young adulthood is achieving intimacy to avoid isolation (Semaraputri & Rustika, 2018). Failure to develop socio-emotional abilities, such as empathy, at this stage can hinder the formation of meaningful relationships (Erikson, 1982).

In the effort to maintain empathy amidst these challenges, emotion regulation plays a vital role (Afifah & Setiawati, 2021). Individuals capable of managing negative emotional responses, such as stress or frustration, are proven to be better at maintaining the perspective of others. Recent studies on nursing students show that effective emotion regulation significantly influences empathy capabilities, where individuals who can control their emotional reactions tend to be more sensitive and caring (Li et al., 2024). Other findings also reinforce that adaptive emotion regulation strategies, such as cognitive reappraisal, have a positive relationship with both cognitive and affective empathy (Salazar et al., 2023). Literature reviews reveal that emotion regulation involves cognitive and behavioral processes to control negative emotions, such as anger or frustration, so they do not disrupt social functioning (Pairi, 2024). This concept, developed by Gross (1998), includes strategies such as cognitive reappraisal that help individuals maintain empathy in conflict situations.

Meanwhile, social intelligence, according to Goleman (2006), refers to the ability to read nonverbal cues, understand group dynamics, and adjust social behavior, which directly correlates with empathy. The literature emphasizes that these two constructs are interrelated; effective emotion regulation can enhance social intelligence, which in turn strengthens empathy (Zaki, 2020). For example, individuals with high emotion regulation tend to be more capable of placing themselves in another's position, thereby strengthening empathy (Salovey & Mayer, 1990). Previous research has shown several important findings. Brandao et al. (2025) found that good emotion regulation in late adolescence is positively correlated with empathy, but this study did not specifically explore young adulthood.

Current research highlights a new urgency regarding the "empathy crisis" in the digital era; the massive shift to virtual interaction has reduced the nonverbal cues essential for empathy, thereby demanding higher social intelligence competencies to bridge that gap. This context provides the theoretical rationale for social intelligence's proposed mediating role: Since effective emotional management must now be translated into behavior within a digitally mediated environment where cues are scarce, a high level of social intelligence is required to successfully convert internal emotional control into an observable, empathetic response towards others. This dynamic is particularly vital for young adults as they strive to accomplish the key developmental task of Intimacy vs. Isolation (Erikson, 1982) within this new social reality. In the specific context of Indonesia, this challenge is complicated by cultural factors; the value of social harmony and a collectivistic societal

structure often limit open emotional expression, which can hinder emotional intelligence development if not managed properly (Dewi & Huwael, 2024). Recent studies on first-time voters in Indonesia even found that social intelligence (socio-emotional skills) functions as a critical filter to prevent aggressive behavior and maintain empathetic attitudes in high-pressure digital spaces (Rahmah et al., 2025).

Aside from emotion regulation, social intelligence becomes another determining factor. Social intelligence includes the ability to read social cues, understand group dynamics, and adjust behavior, functioning as a cognitive bridge to elicit empathetic responses (Merlin & Soubramanian, 2024). Recent research confirms that components of social intelligence are positively correlated with empathy in students, where a good understanding of interpersonal context encourages caring behavior (Starynska & Melnyk, 2025). Furthermore, social intelligence is known to be able to predict empathy levels and reduce aggressive tendencies in adults (Zainab & Khan, 2025).

The gap in this research lies in the lack of studies integrating emotion regulation and social intelligence as joint predictors of empathy in young adults, while considering cultural variables and the digital social context. Previous research has tended to be separate or limited to specific populations; thus, the originality of this study lies in its holistic approach, testing a causal model where social intelligence mediates the relationship between emotion regulation and empathy, using a sample of young Indonesian adults to fill the cultural gap. Based on this urgency, this study aims to analyze the influence of emotion regulation and social intelligence on empathy in young adults. This research is expected to fill the literature gap regarding psychosocial dynamics in the digital era and provide a foundation for psychological interventions relevant to the younger generation in Indonesia.

Method

This study uses a quantitative design with a cross-sectional approach to test the influence of social intelligence and emotion regulation on empathy in young adults. This design was chosen because it allows for the measurement of causal relationships between independent variables (emotion regulation and social intelligence) and the dependent variable (empathy), as well as testing the role of social intelligence and emotion regulation as predictors. The data collection procedure began with ethical approval and informed consent were obtained from participants. Before filling out the questionnaire, each participant was given complete information about the research objectives, risks, benefits, and their right to withdraw at any time without consequence. This consent was obtained through an electronic consent form that had to be digitally signed before access to the questionnaire was opened, in accordance with research ethics principles as regulated by the Declaration of Helsinki. Data were collected over 2 weeks, and incomplete responses were eliminated to ensure data quality.

Sample or Population

The population of this study is individuals in young adulthood (18-40 years old) in Indonesia, covering students and young workers, with a focus on those active in social interactions both directly and digitally. A sample of 341 people was obtained through a voluntary sampling technique. Voluntary sampling is a non-probability sampling technique where participants choose to participate in the research themselves. This technique was chosen for its time efficiency and ease of accessing participants. Participant characteristics include gender distribution, educational backgrounds ranging from diploma to bachelor's degrees, and variations in geographic regions in Indonesia to ensure representativeness. The recruitment procedure began with distributing a Google Form link through social media platforms such as Instagram, Facebook, and WhatsApp groups.

Procedure

The research procedure began with ethical preparation, where the researchers ensured all participants provided informed consent through an electronic form that explained the research objectives, minimal risks (such as fatigue when completing the questionnaire), potential benefits (contribution to psychological knowledge), and the right to withdraw at any time without consequence. Following consent, participants were directed to an online questionnaire created using Google Forms, with an estimated completion time of 15-20 minutes. The questionnaire was distributed gradually over 4 weeks to avoid respondent fatigue, and data was collected anonymously to maintain privacy. In the final stage, the data was exported to a CSV format for analysis, with an initial examination of incomplete or inconsistent responses to ensure data quality before further processing.

Data Measurement

Data were measured using an online questionnaire consisting of three main instruments, each employing a Likert scale. Emotion regulation was measured through the DERS-SF (Difficulty Emotion Regulation Scale - Short Form) with 18 items on a 5-point scale (1 = never to 5 =very often), which assesses strategies such as cognitive reappraisal. Social intelligence was measured using the Tromso Social Intelligence Scale (TSIS) with 19 items on a 7-point scale (1 = strongly disagree to 7 =strongly agree), which assesses the ability to read social cues and interact. Empathy was measured through the Interpersonal Reactivity Index (IRI) with 28 items on a 5-point scale, which includes four subscales: perspective taking, fantasy, empathic concern, and personal distress. All instruments were adapted into Indonesian and tested for internal reliability through a pilot test on 30 respondents, with Cronbach's alpha values above 0.70 to ensure measurement accuracy.

Data Analysis

Data analysis was performed using SPSS version 25 software, beginning with data cleaning to handle missing values or outliers through mean imputation techniques or elimination if necessary. Descriptive tests were used to describe sample characteristics and variable score distributions. Furthermore, normality tests (Kolmogorov-Smirnov) and other assumption tests such as linearity, multicollinearity, and autocorrelation were conducted. Pearson correlation was calculated to identify relationships between variables, followed by multiple linear regression analysis to assess the influence of social intelligence and emotion regulation on empathy. To test the mediator role, path analysis with bootstrapping techniques was applied, with a model assuming social intelligence as an intervening variable. The significance level was set at $\alpha = 0.05$, and all results were visualized through path diagrams for clearer interpretation.

Result

Demographic Data

Table 1. Respondent Demographic Data

Subject Data	Category	Frequency	Percentage
Age	19-25 years old	167	48.97%
	26-30 years old	109	31.96%
	31-40 years old	65	19.06%
	Count	341	100%
Gender	Male	10	2.93%
	Female	331	97.07%
	Count	341	100%
Educational Level	SMP/MTs	3	0.08%
	SMA/SMK/MA	140	41.06%
	Bachelor's Degree 1 (S1)	186	54.55%
	Master's Degree (S2)	8	2.35%
	Others	4	1.17%
	Count	341	100%
Region	Jawa	308	90.32%
	Sumatera	12	3.52%
	Kalimantan	10	2.93%
	Sulawesi	6	1.76%
	Nusa Tenggara	3	0.88%
	Maluku	1	0.29%
	Papua	1	0.29%
	Count	341	100%
Job Type	Homemaker / Housewife	88	25.81%
	Student	87	25.51%
	Private Sector Employee	59	17.30%
	Teacher / Educator	36	10.56%
	Entrepreneur / Self-Employed / Trader	12	3.52%
	Freelancer / Gig Worker / Contract Worker	10	2.93%
	Unemployed / Not Working/Job Seeking	10	2.93%

Subject Data	Category	Frequency	Percentage
	Healthcare Professional	9	2.64%
	Civil Servant / Government Employee	6	1.76%
	Laborer / Factory Worker	6	1.76%
	Administrative Staff / Cashier / Customer Service	6	1.76%
	Other (Assistant Lecturer, Content Creator, etc.)	12	3.23%
	Count	341	100%

Based on the demographic data presented in Table 1, this study involved a total of 341 respondents. Most respondents were in the early phase of young adulthood, with the 19-25 age group dominating, covering nearly half of the total participants (48.97%), followed by the 26-30 age group (31.96%). In terms of gender, there was a significant disparity where female respondents dominated at 97.07%, while males were only 2.93%. The majority of respondents had a higher education background, with Bachelor's degree (S1) graduates contributing the largest percentage at 54.55%, and High School/Vocational School (SMA/SMK/MA) graduates being the second-largest proportion at 41.06%. Geographically, the concentration of respondents was centered on the island of Java, reaching 90.32% of the total sample. Finally, respondents' occupations were distributed across various sectors, with the largest proportions being Housewives (IRT) at 25.81% and University Students/Students at 25.51%, followed by Private Employees (17.30%) and Teachers/Educators (10.56%), reflecting the diversity of social roles in the young adult population.

Reliability Test Result

Table 2. Reliability alpha cronbach test

Variabel	Reliabilitas
Social Intelligence	0.797
Emotion Regulation	0.909
Empathy	0.618

Based on the results of the Cronbach's alpha Reliability test, the Social Intelligence Scale obtained a reliability value of 0.797. This value is above the recommended minimum threshold (e.g., 0.70), indicating that the instrument for measuring the Social Intelligence variable has a good and adequate level of reliability. The Emotion Regulation Scale obtained a reliability value of 0.909. This value is very close to 1.00, indicating that the instrument for measuring the Emotion Regulation variable has a very high (excellent) and consistent level of reliability. Furthermore, the Empathy Scale obtained a reliability value of 0.618. This value is above the frequently used minimum threshold of 0.60, indicating that the instrument for measuring the Empathy variable has sufficient reliability. Thus, the instrument is deemed fit for use in this study.

Normality Test Result

Table 3. Normality Test

Residual	Kolmogorov-Smirnov
	0.200

The normality test results using the Kolmogorov-Smirnov residual data showed a coefficient value of 0.200 ($p > 0.05$), meaning the data is normally distributed and can proceed to the Linearity test..

Linearity Test Results

Table 4. Linearity Test

Variabel	F	Sig.
Empathy*Social Intelligence	2.052	0.001
Empathy*Emotion Regulation	1.172	0.001

The linearity test results showed that the F value for Deviation from Linearity was 2.052 and 1.172 for the variables, with $p = 0.001$. Thus, the variables of social intelligence and emotion regulation have a linear relationship with empathy. Multicollinearity testing can follow.

Multicollinearity Test Result

Table 5. Multicollinearity Test

Variable	Tolerance	VIF
Social Intelligence	0.851	1.175
Emotion Regulation	0.851	1.175

The multicollinearity test between the social intelligence and emotion regulation variables showed a Tolerance value of 0.851 (> 0.10) and a VIF value of 1.175 (< 10.00). This indicates there is no multicollinearity between social intelligence and emotion regulation. Heteroscedasticity testing can follow.

Autocorrelation Test Result

Table 6. Autocorrelation Test

Value	Durbin-Watson
	2.166

The autocorrelation test using the Durbin-Watson method showed a value of 2.166, concluding that there is no autocorrelation in the regression model. This indicates that the assumption of residual independence has been met, so the multiple regression model used in this study meets statistical assumption requirements and hypothesis testing can be performed.

Hypothesis Testing Results

Table 7. Simultaneous Test

ANOVA	F	R ²	Sig.
	18.452	0.098	0.000

The analysis of the simultaneous influence of Social Intelligence and Emotion Regulation on Empathy yielded $F = 18.452$ with $\text{Sig.} = 0.000$. This means that simultaneously (together), social intelligence and emotion regulation significantly predict empathy in young adulthood. Both variables have a Total Effective Contribution of 9.8%. Thus, 90.2% is influenced by other variables.

Table 8. Partial Effect Test

Variable	t	Sig.
Social Intelligence	6.075	0.000
Emotion Regulation	2.351	0.019

The partial effect test for the Social Intelligence variable yielded a t-score of 6.075 with a significance level of 0.000 ($p < 0.05$). This indicates that Social Intelligence has a significant influence on Empathy. Furthermore, the Emotion Regulation variable yielded a t-score of 2.351 with a significance level of 0.019 ($p < 0.05$). This also indicates that Emotion Regulation has a significant influence on Empathy.

Discussion

This study aimed to analyze the influence of emotion regulation and social intelligence on empathy in young adults, as well as to test the role of social intelligence as a mediator in that relationship. The results

indicate that social intelligence and emotion regulation play significant roles in influencing empathy in young adults. Simultaneous testing showed that both variables jointly contribute significantly to empathy, as seen from the F value of 18.452 with a significance of 0.000. Although the total effective contribution is relatively small (9,8%), this finding confirms that social intelligence and emotion regulation remain important factors in shaping empathy during the young adult developmental period, which is characterized by increasingly complex social demands.

More specifically, social intelligence was found to have the strongest influence on empathy ($t = 6.075$, $p = 0.001$). This finding is consistent with theories stating that social intelligence, which includes the ability to read social cues, understand relationship dynamics, and communicate effectively, is a fundamental component enabling individuals to respond to others' emotional conditions. In Indonesian culture, which emphasizes social harmony and interpersonal sensitivity, high social intelligence can further strengthen an individual's tendency to empathize.

Emotion regulation was also proven to significantly influence empathy ($t = 2.351$, $p = 0.019$). This supports the view that individuals who can manage negative emotions, such as stress or anger, tend to be better able to maintain emotional openness in interactions with others (Khalillah et al, 2025). The ability to lower negative emotional intensity and use cognitive strategies to assess situations more adaptively allows individuals to respond better to others' emotional needs. The finding that emotion regulation and social intelligence combined explain only 9.8% of the variance in empathy, despite being statistically significant ($F = 18.452$, $p < 0.001$), presents a crucial point for discussion. This strikingly low R-squared necessitates a critical examination of why these two constructs, traditionally considered fundamental components of empathetic capacity in psychological theory, play such a minor role in this specific young adult sample. Rather than attributing the large unexplained variance to broad factors like personality or family quality, we posit that the minimal contribution is a direct reflection of the sample's digital-heavy and collectivistic cultural context.

In an environment where social interaction is predominantly mediated by algorithms and low nonverbal cues, the internal, individual-level skills measured by the DERS-SF and TSIS may become secondary to powerful external, contextual factors. These factors likely include the specific norms of digital communication (e.g., the prevalence of 'call-out culture' or online anonymity), the culturally-driven need for social harmony which may suppress genuine emotional expression (Dewi & Huwael, 2024), and the sheer volume of filtered digital exposure that provides little practice in deep, contextual empathy. This suggests that for Indonesian young adults navigating the digital era, the development of empathy is overwhelmingly shaped by the external social habitat and cultural demands rather than being primarily driven by intrinsic socio-emotional competencies.

Regarding Erik Erikson's Psychosocial Development Theory, specifically the Intimacy versus Isolation stage which is the primary task of young adulthood, successful intimacy requires high socio-emotional abilities, where empathy functions as a foundation for understanding and sharing others' feelings (Erikson, 1982). High emotion regulation in young adults allows the capability to manage internal conflict and negative emotions to remain open and responsive, which is an essential prerequisite for intimacy. Meanwhile, social intelligence acts as a cognitive instrument to navigate relationship complexities, such as reading nonverbal cues and interpersonal dynamics. Thus, the finding that social intelligence and emotion regulation significantly predict empathy is consistent with developmental demands in Erikson's stage.

Based on the calculations performed, the results of this study strengthen the theoretical understanding that empathy is the result of the interaction between social abilities and the ability to manage emotions. These findings contribute to enriching the study of empathy development in Indonesian young adults, especially in a modern context influenced by changing social interaction patterns, both face-to-face and digital.

Emotion Regulation on Empathy in Young Adults

The calculation results in this study show that emotion regulation significantly influences empathy in young adults ($t = 2.351$, $p = 0.019$). This finding is consistent with various international studies emphasizing that emotion regulation is an important predictor in empathy formation. Research by Salazar et al. (2023) asserts that adaptive emotion regulation strategies, such as cognitive reappraisal, have a positive relationship with cognitive and affective empathy. This indicates that individuals capable of effectively managing negative emotions are better able to understand others' feelings and perspectives. Research by Li et al. (2024) also supports this, showing that emotion regulation influences empathy capabilities in nursing students in China. Individuals who can control stress and emotional reactions tend to be more capable of showing sensitivity and care for others.

Aligning with these findings, Henschel et al. (2020) found that emotion regulation abilities in young adults play an important role in enhancing empathy, where individuals with secure attachment styles show

more effective emotion regulation, thus being better able to understand, feel, and respond to others' emotional conditions adaptively. Conversely, individuals with anxious or avoidant attachment styles often experience difficulty regulating their emotions, which ultimately hinders the ability to build emotional closeness and express empathy optimally. This finding strengthens the argument that emotion regulation is a fundamental aspect allowing someone to respond to others' emotional conditions more adaptively.

Although the contribution of emotion regulation is relatively small when viewed alongside social intelligence (total contribution only 9,8%), this study still shows that the ability to manage emotions cannot be separated from empathy formation. The low contribution of the variable also suggests the presence of other factors influencing empathy, such as personality, childhood experiences, digital communication patterns, and cultural context (Giyati & Whibowo, 2023). Therefore, improving empathy in young adults should involve emotion regulation training, such as mindfulness, emotion recognition exercises, or cognitive reframing (Azis & Wulandari, 2025).

Social Intelligence on Empathy in Young Adults

This study found that social intelligence has the strongest influence on empathy ($t = 6.075$, $p = 0.000$). This result aligns with findings by Starynska and Melnyk (2025), which showed that social intelligence components—including the ability to read social cues, interpret interpersonal contexts, and understand relationship dynamics—correlate positively with empathy in students. Zainab and Khan (2025) also revealed that social intelligence can significantly predict empathy levels in adults, emphasizing that the capacity to understand the social environment is the basis for the emergence of effective empathetic responses. A positive relationship between social intelligence and empathy was also found in research by Hetemi et al. (2023). These findings support the view that empathy is not only related to emotional responses but also cognitive abilities in understanding social situations.

In Indonesian culture itself, which emphasizes social harmony, politeness norms, and interpersonal sensitivity, social intelligence becomes increasingly important in shaping empathy. Intense social interaction during young adulthood, both in the real world and digitally, makes the ability to read social situations, interpret nonverbal expressions, and manage interpersonal relationships key factors in the emergence of empathetic responses (Julliyaningtyas & Khasan, 2025). Although social intelligence was the strongest predictor in this study, its contribution remains within a total of approximately 9,8% together with emotion regulation. This indicates that empathy is a multidimensional construct influenced by various other factors, such as personality aspects (e.g., agreeableness), relational experiences, exposure to multicultural environments, and digital communication patterns (Sulistyo, 2016). Overall, the results of this study reinforce various international findings and theories stating that social intelligence plays a central role in empathy formation.

Limitations

The findings of this study are subject to several limitations, primarily concerning the sample's characteristics. First, the demographic composition exhibited a severe gender imbalance (97.07% female) and a substantial geographic bias (90.32% from Java). Consequently, the results may not be generalizable to the broader, diverse Indonesian young adult population. Future research should prioritize efforts to achieve a more balanced sample across gender and geography. Second, the reliance on a voluntary sampling method introduces a potential selection bias, as the participants who chose to respond may possess distinct characteristics (e.g., higher social media engagement or specific psychological profiles) that limit the external validity of the findings.

Conclusion

This study concludes that social intelligence and emotion regulation significantly influence empathy in young adults. Social intelligence is the most dominant predictor, indicating that the ability to understand social situations and respond appropriately is a primary aspect of empathy formation. Emotion regulation also contributes significantly, signaling that the ability to manage emotions helps individuals remain responsive to the emotional conditions of others. Although the total contribution of both variables to empathy is classified as small, these findings affirm that both aspects are important parts of interpersonal dynamics in young adulthood.

Based on the research results, it is suggested that empathy development programs for young adults involve training to increase social intelligence through interaction-based activities, role-playing, and interpersonal communication exercises. Additionally, emotion regulation training such as relaxation techniques, mindfulness, and cognitive reappraisal can provide benefits in improving an individual's ability to

understand and respond to others' emotions. For future research, it is suggested to add other variables potentially influencing empathy, such as personality, digital communication patterns, or cultural factors, and to use a more balanced sample in terms of gender and region so that the obtained results are more representative and generalizable.

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