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Helping Leads to Happiness: The Mediating Role of Self-Esteem between Internet Altruistic Behavior and Subjective Well-Being among Emerging Adults

Menolong Berakhir Bahagia: Peran Harga Diri sebagai Mediator antara Perilaku Altruisme di Internet dan Kesejahteraan Subjektif pada Dewasa Muda

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Abstract

In the digital era, internet use among emerging adults continues to rise, with both positive and negative impacts on their subjective well-being (SWB). Similar to real-world settings, selfless helping behavior (altruism) in the virtual environment can positively affect individual well-being. However, the underlying mechanisms linking internet altruism and SWB among emerging adults in Indonesia remain largely unexplored. Given the close association between self-esteem and altruism, this study aims to examine the mediating role of self-esteem in the relationship between internet altruistic behavior (IAB) and SWB. Participants were 173 emerging adults aged 18-25 years who were active internet users. The survey included scales measuring IAB, self-esteem, life satisfaction (cognitive SWB), and positive and negative affect (affective SWB). Mediation analysis revealed that self-esteem significantly mediates the relationship between IAB and cognitive SWB. However, it did not mediate the relationship between IAB and affective SWB. Furthermore, IAB demonstrated a direct effect on both SWB components. These findings highlight the importance of encouraging emerging adults to engage in online altruistic behaviors to achieve optimal SWB.

Keywords: Internet Altruistic Behavior, Self-Esteem, Subjective Well-Being

Abstrak

Di era teknologi, penggunaan internet oleh dewasa muda semakin meningkat. Dampak yang ditimbulkan dapat bersifat negatif ataupun positif bagi kesejahteraan subjektif individu (*subjective well-being* atau SWB). Seperti halnya dalam dunia nyata, perilaku menolong tanpa pamrih (altruisme) di dunia maya dapat menimbulkan dampak positif bagi kesejahteraan individu. Namun, mekanisme hubungan antara altruisme di internet dengan SWB pada individu dewasa muda di Indonesia belum banyak diketahui. Mengingat harga diri dapat mempengaruhi altruisme, penelitian ini bertujuan untuk menguji peran harga diri sebagai mediator antara perilaku altruisme di internet (*internet altruistic* behavior atau IAB) dengan SWB. Partisipan dalam penelitian ini adalah 173 orang dewasa muda berusia 18-25 tahun yang merupakan pengguna aktif media internet. Survei yang dibagikan berisikan skala yang mengungkap IAB, harga diri, kepuasan hidup (SWB kognitif), serta afeksi positif dan afeksi negatif (SWB afektif). Hasil analisis mediasi menunjukkan bahwa harga diri menjadi mediator yang signifikan antara IAB dan SWB kognitif, tetapi harga diri tidak memperantarai IAB dan SWB afektif. IAB justru memiliki pengaruh langsung terhadap kedua komponen SWB. Hal ini berimplikasi pada pentingnya mendorong para dewasa muda untuk melakukan perilaku altruisme dalam dunia maya agar dapat mencapai kesejahteraan subjektif yang optimal.

Kata Kunci: Perilaku Altruisme Internet, Harga Diri, Kesejahteraan Subjektif

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INTRODUCTION

Rapid technological advancement has significantly increased internet usage in Indonesia, particularly among emerging adults (aged 18-25 years). Datareportal.com (Kemp, 2025) reported that this expansion has been consistent year- on-year. In 2023, the number of internet users reached 194 million, representing a 5% increase from the preceding year. Subsequently, this figure rose by 0.8% (1 million) in 2024, followed by an 8.7% (17 million) increase in 2025. Accessing social media is particularly popular among the youth, predominantly those aged 18-24 (24.4%) and 25-34 (39.2%). Beyond staying connected with friends and family, emerging adults utilize social media for leisure and to seek inspiration for activities or consumer purchases (Kemp, 2025). This aligns with the developmental characteristics of emerging adulthood, which is highly self-focused as individuals actively explore personal identity and life aspirations (Arnett & Mitra, 2020).

As emerging adults face a variety of life transitions, such as moving from high school to university and from university to the workforce, these changes in career and social relationships frequently underlie their utilization of the internet and social media. This engagement can exert either positive or negative impacts on their well-being. Research indicates that social media use among emerging adults risks aggravating mental health problems. This occurs due to deficiencies in individual emotion regulation and high stress levels, leading social media to be utilized as an escape from stressors or as an emotional outlet (Rasmussen et al., 2020). Social comparisons and the fear of missing out (FoMO, defined as the apprehension of being left behind by peers perceived to have more rewarding experiences, thereby requiring constant monitoring) are also highly prevalent among social media users. These variables correlate negatively with emerging adults' well-being and are associated with more intensive social media use (Reer et al., 2019). Numerous studies link excessive and passive social media use to loneliness, anxiety, and depression (Koh et al., 2024). Conversely, active and purposeful social media use enhances individual mental health and well-being (Koh et al., 2024; Verduyn et al., 2017).

In fact, internet usage, in particular social media, can be leveraged to seek new and useful information, build networks, and strengthen social relationships (Verduyn et al., 2017). In the current era, social support can be obtained not only in the real world but also in virtual environments. Research shows that virtual social support is as effective as that obtained offline. Social support assists individuals in overcoming difficulties and life challenges, thereby reducing negative thoughts that lead to depression (Cole et al., 2017; Nick et al., 2018). Paradoxically, however, research also indicates that the frequency of social media access is not always positively associated with increased social support; frequent users may perceive a lack of social support (Shensa et al., 2016). This finding contrasts with other studies reporting that the frequency of social media use provides benefits in terms of social connectedness and meaning in life, despite mental health risks (Keum et al., 2023). This discrepancy raises the argument that internet use motives are far more critical than the frequency of use. Positive impacts on well-being tend to be experienced if users have constructive purposes, such as focusing on broadening knowledge and building social networks, rather than engaging in social comparisons that elicit envy toward others (Verduyn et al., 2017).

Selfless helping behavior (altruism) in the virtual world, hereinafter referred to as internet altruistic behavior (IAB), can be classified as an active and constructive action. Zheng et al. (2016) indicate that IAB is a voluntary behavior wherein individuals help others without feeling coerced or expecting reward for their actions. This includes providing positive online support or responses to others in need (internet support), providing online guidance and direction to help others solve problems (internet guidance), sharing experiences and insights with others online (internet sharing), and reminding others online to be cautious of negative information, scams, fake news (hoaxes), and fraud (internet reminding) (Zheng & Zhao, 2015). Empirical evidence indicates that IAB is directly and indirectly related to subjective well-being (SWB) (Zheng et al., 2016). The more frequently individuals exhibit IAB, the higher their SWB. IAB also promotes an individual's self-efficacy, which subsequently influences their SWB. SWB is defined as an individual's evaluation of their life, which is reflected in life satisfaction (cognitive SWB), as well as increased positive affect and decreased negative affect (affective SWB) (Diener, 1984). Zheng et al. (2016) suggest that future research should examine mediating variables other than self-efficacy to further clarify the relationship between IAB and SWB.

In Indonesia, research on altruism is critical, given that the Indonesian population strongly upholds the values of gotong royong (mutual cooperation), which emphasises collaborative behavior, empathy, and mutual assistance (Murtadlo et al., 2024). This cultural trait is further substantiated by the 2024 World Giving Index (WGI), which ranked Indonesia as the most generous country in the world for seven consecutive years, spanning from 2017 to 2024 (Charities Aid Foundation, 2025). The survey by the Charities Aid Foundation (2025) shows that 90% of Indonesians donate money to charity and 65% volunteer their time. Although a helping culture is a defining characteristic of Indonesian society, concerns have emerged that this prosocial habit is beginning to diminish among the younger generation. This decline may be attributed to the individualistic nature of technological activities that are popular among young people, as well as the adoption of individualistic values that prioritize self-interest (Murtadlo et al., 2024). Given that altruistic behavior can occur in the virtual world and that this behavior is closely linked to real-world altruism (Fen et al., 2022; Verduyn et al., 2017), it is highly relevant to examine the extent to which IAB influences the well-being of emerging adults in Indonesia within the current technological landscape.

Furthermore, the relationship between IAB and well-being is likely to be mediated by other variables. Literature indicates that self-esteem is positively associated with IAB

(Zheng et al., 2021) and is also positively associated with SWB, such as life satisfaction (Diener & Diener, 1995). Self-esteem is a significant predictor of adolescents' SWB, and SWB generally tends to decline with age (Katsantonis et al., 2023).

Currently, no studies have examined the link between IAB, self-esteem, and the subjective well-being of emerging adults within the context of Indonesian culture. This study aims to investigate the role of self-esteem as a mediator between IAB and subjective well-being. If young Indonesians inherit prosocial habits, as reflected in the IAB variable, this altruistic behavior can enhance their positive self-evaluation (self-esteem), which in turn will be positively associated with their SWB. The findings of this study can be utilized as a foundation to develop digital literacy programs and online communities that yield a positive impact on youth mental health. Given that SWB comprises cognitive and affective components (Diener, 1984), the analysis of these SWB components will be conducted separately. The conceptual framework of this study is illustrated in Figures 1 and 2 below.

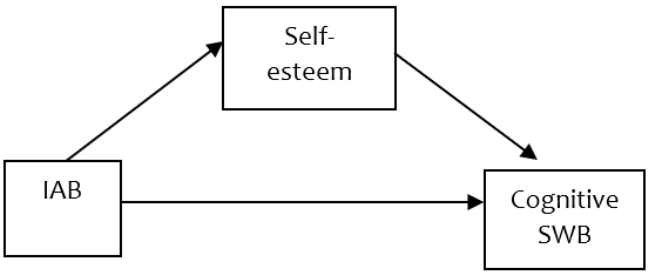

Figure 1. Conceptual framework of IAB and cognitive SWB with self-esteem as a mediating variable

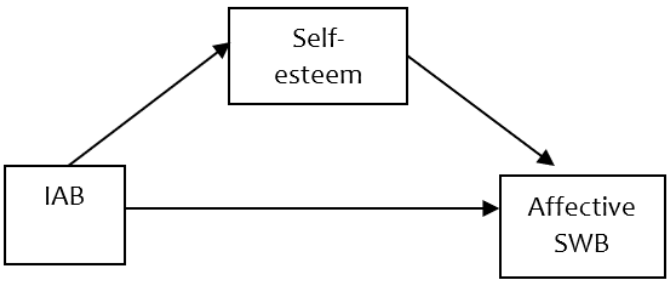

Figure 2. Conceptual framework of IAB and affective SWB with self-esteem as a mediating variable

Based on the conceptual framework, the hypotheses of this study are as follows: (1) self-esteem mediates the relationship between IAB and cognitive SWB (life satisfaction), and (2) self-esteem mediates the relationship between IAB and affective SWB (positive affect).

METHOD

This study employs a quantitative design utilizing a survey method. The population consists of emerging adults aged 18 to 25 who are active internet users and have engaged in online helping behaviors. The research deployed convenience sampling, with study information and a questionnaire link distributed via Instagram, Line, WhatsApp, Telegram, Threads, and Facebook. Informed consent was also provided within the questionnaire; only individuals who explicitly agreed to participate were included as participants in this study. Based on a power analysis using G*Power 3.1 (Faul et al., 2009) for a linear multiple regression, the minimum required sample size was determined to be 107. A total of 173 participants were recruited for this study, thereby fulfilling the targeted sample size requirement.

This study utilizes four measures formatted as Likert scales, compiled into a single questionnaire using Google Forms. For SWB, two different scales were employed: the Satisfaction with Life Scale (SWLS) (Diener et al., 1985) to assess the cognitive component of SWB, and the Positive and Negative Affect Schedule (PANAS) (Watson et al., 1988) to assess the affective component of SWB. Both measures had been translated into Indonesian by Akhtar (2019). SWLS consists of 5 items regarding life satisfaction, with response options ranging from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). A higher SWLS score indicates greater life satisfaction, which signifies higher cognitive SWB. In this study, the Cronbach's alpha for the SWLS was .857. Meanwhile, the PANAS consists of 20 items assessing positive and negative feelings, with response options ranging from 1 ("Not at all") to 5 ("Extremely"). Scoring for the negative affect items was reversed. A higher PANAS score indicates more positive affect or better affective SWB. In this study, the Cronbach's alpha for the PANAS was .874.

To measure IAB, a scale was developed based on the dimensions of IAB proposed by Zheng and Zhao (2015): internet support, internet guidance, internet sharing, and internet reminding. The IAB scale consists of 16 items with 4-point response options, ranging from 1 ("Never") to 4 ("Always"). Scoring was reversed for negatively worded items. A higher IAB score indicates that the individual more frequently exhibits selfless helping behavior on the internet. The Cronbach's alpha for this measure demonstrated good reliability, with a coefficient of .813.

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965). This scale consists of 10 items with response options ranging from 1 to ("Strongly Disagree") to 4 ("Strongly Agree"). Scoring for negatively worded items was reversed. A higher RSE score reflects a higher level of individual self-esteem. This scale is available in Indonesian and has been utilized in previous research related to self-esteem (Sumargi & Firlita, 2020). In this study, the Cronbach's alpha for the RSE was .829.

Data analysis was performed using mediation analysis with the SPSS path analysis macro (PROCESS Model 4) developed by Hayes (2017). Mediation analysis is an Ordinary Least Squares (OLS) regression technique utilizing the bootstrapping method. In this study, 10,000 bootstrap resamples, a seed of 2437, and a 95% bias-corrected and accelerated confidence interval (95% BCa CI) were applied. The 95% BCa CI indicates the lower and upper bounds of the calculated statistical coefficient. If this interval does not

include zero, the obtained result is considered statistically significant (Field, 2013). The mediation analysis was conducted separately for each SWB model: the life satisfaction model (SWLS) and the affect model (PANAS), with internet altruistic behavior (IAB) as the independent variable and self-esteem as the mediator variable. SPSS for Windows version 26 was used for all data processing.

RESULTS

A total of 173 individuals participated in this study. Table 1 describes the detailed demographic characteristics of the participants. In terms of age, all participants were emerging adults aged 18 to 25 years (*M* = 21.69, *SD* = 1.69). They were active internet users who had engaged in online helping behaviors.

Table 1. Participant Demographic Characteristics (*N* = 173)

Characteristics	Category	*f*	
Gender	Female	115	66.47
	Male	58	33.53
Educational attainment	High school	89	51.45
	Bachelor's degree	83	47.98
	Master's degree	1	0.58
Employment Status	University students	90	52.02
	Employed	66	38.15
	Employed students	15	8.67
	High school students	2	1.16
Residence	Surabaya (East Java)	137	79.19
	Sidoarjo (East Java)	12	6.94
	Malang (East Java)	5	2.89
	Tuban (East Java)	2	1.16
	Blitar (East Java)	1	0.58
	Jombang (East Java)	1	0.58
	Kediri (East Java)	1	0.58
	Mojokerto (East Java)	1	0.58
	Sragen (Central Java)	2	1.16
	Semarang (Central Java)	2	1.16
	Yogyakarta (Special Region)	1	0.58
	Bandung (West Java)	1	0.58
	Tangerang (Banten)	2	1.16
	Medan (North Sumatra)	1	0.58
	Manado (North Sulawesi)	1	0.58
	Denpasar (Bali)	1	0.58
	Flores (East Nusa Tenggara)	1	0.58
	Sentani (Papua)	1	0.58

As shown in Table 1, the majority of the participants were female (66.47%), held a high school qualification (51.45%), and were university students (52.02%). The vast majority of the participants resided in East Java (92.49%), specifically in Surabaya (79.19%).

Meanwhile, the descriptive statistics for the research variables are presented in Table 2, which includes the means (*M*), standard deviations (*SD*), and intercorrelations among the variables. Age was included in the table as it was the only demographic variable that demonstrated a significant correlation with SWB components. Tables 3, 4, 5, and 6 display the frequency distributions based on the categorization of each variable. The categories, comprising Very High, High, Medium, Low, and Very Low, were determined based on the hypothetical mean and hypothetical standard deviation of each respective scale

Table 2. Descriptive Statistics and Pearson's Product-Moment Correlations Among Research Variables

Variables	1	2	3	4	5
1. Cognitive SWB	-	.60***	.26***	.35***	.28***
2. Affective SWB	-	-	.43***	.32***	.31***
3. IAB	-	-	-	.20**	.13
4. SE	-	-	-	-	.17*
5. Age	-	-	-	-	-
M	23.28	66.87	44.60	26.77	21.69
SD	5.65	10.73	7.13	5.75	1.69
Score range	5-35	20-100	16-64	10-40	18-25

Note: *N* = 173. SWB = Subjective Well-Being; IAB = Internet Altruistic Behavior; SE = Self-Esteem.

*$p < .05$, **$p < .01$, ***$p < .001$

Based on the *M* and SD values for each research variable presented in Table 2, the participants' scores in general were above the midpoint of the possible score range. This indicates that the majority of the participants reported high levels of SWB, high self-esteem, and frequent engagement in IAB.

The results of the intercorrelation analysis presented in Table 2 show that all relationships were statistically significant, except for the correlation between age and IAB. The direction of these relationships was positive, signifying that a higher frequency of IAB is associated with higher levels of SWB (life satisfaction and positive affect). IAB was also positively correlated with self-esteem, and higher self-esteem was correlated with enhanced SWB. Age was positively correlated with all research variables except for IAB. This indicates that an increase in SWB and self-esteem aligns with advancing age, whereas IAB is independent of age.

Table 3. Categorization of Internet Altruistic Behavior (IAB)

Category	Cutoff Scores	Frequency (%)
Very High	54.4 < X	12 (6.94%)
High	44.8 < X ≤ 54.4	78 (45.09%)
Medium	35.2 < X ≤44.8	64 (36.99%)
Low	25.6 < X ≤ 35.2	18 (10.40%)
Very Low	X ≤ 25.6	1 (0.58%)

Note: *N* = 173; hypothetical *Mean* = 40; hypothetical *SD* = 8.

Table 3 illustrates the frequency distribution and percentage of IAB across categories ranging from Very High to Very Low. The categorization results reveal that the majority of the participants demonstrated High (45.09%) and Medium (36.99%) levels of IAB. This indicates that most of the participants frequently engaged in helping behaviors on the internet.

Table 4. Categorization of Self-Esteem

Category	Cutoff Scores	Frequency (%)
Very High	34 < X	19 (10.98%)
High	30 < X ≤ 34	29 (16.76%)
Medium	22 < X ≤30	85 (49.13%)
Low	16 < X ≤ 22	34 (19.65%)
Very Low	X ≤ 16	6 (3.47%)

Note: *N* = 173; hypothetical *Mean* = 25; hypothetical *SD* = 5.

Table 4 illustrates the frequency distribution and percentage of self-esteem across categories ranging from Very High to Very Low. Based on these categorization results, the majority of the participants fell into the Medium level of self-esteem (49.13%); in other words, they possessed a moderate level of self-esteem.

Table 5. Categorization of Cognitive SWB (Life Satisfaction)

Category	Cutoff Scores	Frequency (%)
Very High	29 < X	27 (15.61%)
High	23 < X ≤ 29	61 (35.26%)
Medium	17 < X ≤ 23	57 (32.95%)
Low	11 < X ≤ 17	22 (12.72%)
Very Low	X ≤ 11	6 (3.47%)

Note: *N* = 173; hypothetical *Mean* = 20; hypothetical *SD* = 5.

Table 5 illustrates the frequency distribution and percentage of cognitive SWB (life satisfaction) across categories ranging from Very High to Very Low. Based on these categorization results, the majority of the participants fell into the High (35.26%) and Medium (32.95%) levels of life satisfaction. This indicates that most of the participants reported high life satisfaction.

Table 6. Categorization of Affective SWB (Positive Affect)

Category	Cutoff Scores	Frequency (%)
Very High	84 < X	9 (5.20%)
High	68 < X ≤ 84	63 (35.42%)
Medium	52 < X ≤ 68	92 (53.18%)
Low	36 < X ≤ 52	8 (4.62%)
Very Low	X ≤ 36	1 (0.58%)

Note: *N* = 173; hypothetical *Mean* = 60; hypothetical *SD* = 13.33.

Table 6 illustrates the frequency distribution and percentage of affective SWB (positive affect) across categories ranging from Very High to Very Low. Based on these categorization results, the majority of the participants fell into the Medium level of positive affect (53.18%), followed by the High level (35.42%). This indicates that most of the participants reprted a relatively high level of positive affect.

Before hypothesis testing, several assumption tests were conducted. The results of these tests are presented in Tables 7 and 8 below.

Table 7. Results of Normality Tests

Normality tests	Variable	Result	Conclusion
Normality, based on z-*skewness* (*S*) dan z-kurtosis (*K*)	IAB	*S*: -0.14 *K*: 2.18	Satisfied
	SE	*S*: -1.08 *K*: 1.27	Satisfied
	Cognitive SWB	*S*: -0.98 *K*: -0.47	Satisfied
	Affective SWB	*S*: 0.16 *K*: 0.51	Satisfied
Multivariate outliers, based on Mahalanobis distance	Cognitive SWB	Min: 0.004 Max: 13.02	Satisfied
	Affective SWB	Min: 0.004 Max: 13.02	Satisfied

Note: *N* = 173; IAB = Internet Altruistic Behavior; SE= Self-Esteen, SWB = Subjective Well-Being. *S* and *K* represent skewness and kurtosis values divided by their respective standard errors, resulting in standard scores (*z-scores*). Min and Max represent the minimum and maximum scores of Mahalanobis distance for cognitive and affective SWB models.

The results of the normality test based on *z-skewness* and z-kurtosis values are shown in Table 7. Based on the results, no deviations from normality were found across all research variables, as all values fell within the range of ±3.29 *SD* (Field, 2013); thus, it was concluded that the data distribution was normally distributed. Inspection of multivariate outliers using Mahalanobis distance also revealed no deviations in either the cognitive or affective SWB models. The maximum Mahalanobis distance value of

13.02 was smaller than the critical chi-square value of 13.82 (*df* = 2, *p* < .001) (Pallant, 2020).

Table 8. Results of Multicollinearity, Linearity, and Homoscedasticity Tests

Assumption Test	Dependent Variable	Result	Conclusion
Multicollinearity (IAB and SE), based on *VIF* and *Tolerance* (T)	Cognitive SWB	*VIF*: 0.96 T: 1.04	Satisfied
	Affective SWB	*VIF*: 0.96 T: 1.04	Satisfied
Linearity and homoscedasticity, based on the scatter plot	Cognitive SWB	Randomly scattered, no discernible pattern.	Satisfied
	Affective SWB	Concentrated around the center	Not satisfied
Homoscedasticity, based on the Glejser tests on IAB and SE	Cognitive SWB	IAB: *t* = 1.93, *p* > .05	Satisfied
		SE: *t* = -3.46, *p* < .01	Not satisfied
	Affective SWB	IAB: *t* = 3.97, *p* < .001	Not satisfied
		SE: *t* = -6.34, *p* < .001	Not satisfied

Note: *N* = 173; IAB = Internet Altruistic Behavior, SE = Self-Esteem; SWB = Subjective Well-Being.

As shown in Table 8, the multicollinearity assumption was satisfied because the Tolerance value was greater than .10 (i.e., .96) and the *VIF* value was less than 10 (i.e., 1.04) for both IAB and self-esteem (Pallant, 2020).

Table 8 also presents the results of the linearity and homoscedasticity assumption tests based on scatterplots and the Glejser test. In the cognitive SWB model, the data points on the scatterplot were randomly scattered without any distinct pattern (Pallant, 2020). However, the Glejser test results revealed that the effect of self-esteem was statistically significant (*t* = -3.46, *p* < .01), indicating a tendency toward heteroscedasticity. Meanwhile, in the affective SWB model, data deviations were observed on the scatterplot (Pallant, 2020). The Glejser test also yielded significant results for both IAB (*t* = 3.97, *p* < .001) and self-esteem (*t* = -6.34, *p* < .001), confirming the presence of heteroscedasticity in the affective SWB model. To minimize potential bias resulting from these assumption violations, a bootstrapping method was employed, which involved resampling the data repeatedly to produce more accurate parameter estimates (Field, 2013).

Path analysis utilizing the PROCESS macro for SPSS was employed to test the research hypotheses. Mediation analyses were conducted separately for cognitive SWB (life satisfaction) and affective SWB (positive affect). The results of these mediation tests are presented in Figures 3 and 4. In both mediation models, the effect of age was controlled as a covariate.

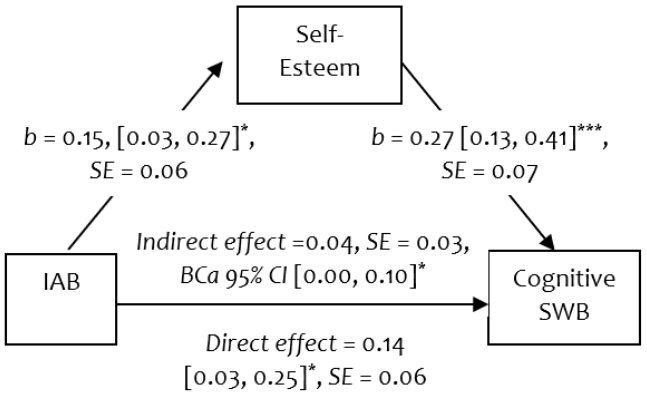

Figure 3. Mediation Analysis of the Relationship Between IAB and Cognitive SWB (Life Satisfaction) with Self-Esteem as a Mediator (with Age Controlled). The figure displays unstandardized regression coefficients (*N* = 173).
*p < .05; ***p < .001.

Figure 3 illustrates the results of the mediation analysis for the cognitive SWB model. As shown, all pathways were statistically significant. IAB had a significant effect on self-esteem, *b* = 0.15, 95% CI [0.03, 0.27], *SE* = 0.06, *t* = 2.45, *p* < .05. The variance explained by this model (R^2) was .06, *F*(2, 170) = 5.69, *p* < .01, indicating that IAB was a positive predictor of self-esteem (an increase in IAB was followed by an increase in self-esteem). Furthermore, after controlling for IAB, self-esteem significantly affected cognitive SWB, *b* = 0.27, 95% CI [0.13, 0.41], *SE* = 0.07, *t* = 3.84, *p* < .001. This indicates that self-esteem was a positive predictor of cognitive SWB (an increase in self-esteem was followed by an increase in life satisfaction). The total effect was significant, *b* = 0.18 95% CI [0.07, 0.30], *SE* = 0.06, *t* = 3.21, *p* < .01. Similarly, the direct effect of IAB on cognitive SWB was also significant, *b* = 0.14, 95% CI [0.03, 0.25], *SE* = 0.06, *t* = 2.57, *p* < .05. The total variance explained by the full model, including both IAB and self-esteem as predictors of cognitive SWB was R^2 = .20, *F*(3, 169) = 14.35, *p* < .001.

Finally, the indirect effect of IAB (independent variable) on cognitive SWB (dependent variable) was statistically significant, *b* = 0.04 BCa 95% CI [0.001, 0.10], *SE* = 0.03. Given that the direct effect was also significant, this indicates a partial mediation, meaning that only a portion of the effect of IAB on cognitive SWB (life satisfaction) can be explained by self-esteem. Nevertheless, the first hypothesis of this study was supported: self-esteem serves as a mediator in the relationship between IAB and life satisfaction.

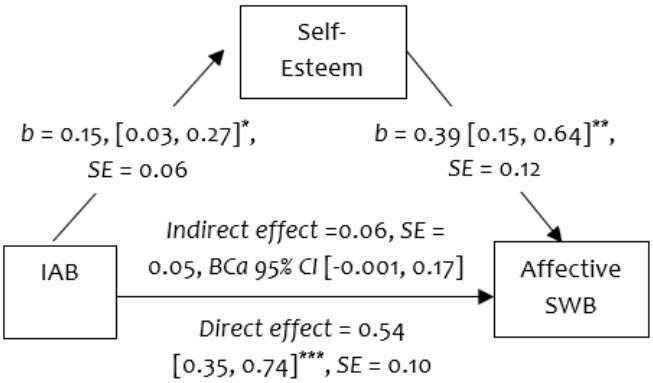

Figure 4. Mediation Analysis of the Relationship Between IAB and Affective SWB (Positive Affect) with Self-Esteem as a Mediator (with Age Controlled). The figure displays unstandardized regression coefficients (*N* = 173).
$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Figure 4 illustrates the results of the mediation analysis for the affective SWB model. As shown, all direct pathways were statistically significant, whereas the indirect effect was not. IAB had a significant effect on self-esteem, *b* = 0.15, 95% CI [0.03, 0.27], *SE* = 0.06, *t* = 2.45, *p* < .05. The variance explained by this model (R^2) was .06, $F(2, 170) = 5.69$, *p* < .01, indicating that IAB was a positive predictor of self-esteem (an increase in IAB was followed by an increase in self-esteem). Furthermore, after controlling for IAB, self-esteem significantly affected affective SWB, *b* = 0.39, 95% CI [0.15, 0.64], *SE* = 0.12, *t* = 3.17, *p* < .01. This indicates that self-esteem was a positive predictor of affective SWB (an increase in self-esteem was followed by an increase in positive affect). The total effect was significant, *b* = 0.60, 95% CI [0.40, 0.80], *SE* = 0.10, *t* = 5.98, *p* < .001. Similarly, the direct effect of IAB on affective SWB yielded a significant result, *b* = 0.54 [0.35, 0.74], *SE* = 0.10, *t* = 5.45, *p* < .001. The total variance explained by the full model, including both IAB and self-esteem as predictors of affective SWB, was $R^2 = .30$, $F(3, 169) = 23.66$, *p* < .001.

Meanwhile, the indirect effect of IAB (independent variable) on affective SWB (dependent variable) through self-esteem (mediator variable) was not statistically significant, *b* = 0.06, Bca 95% CI [-0.001, 0.17], *SE* = 0.05, *ns*. This indicated that self-esteem did not mediate the relationship between IAB and affective SWB (positive affect). Thus, the second hypothesis of this study was not supported.

DISCUSSION

The findings of this study demonstrated that self-esteem mediates the relationship between IAB and cognitive SWB (life satisfaction). This finding aligns with previous research indicating that IAB influences subjective well-being in adolescents (Zheng et al., 2016). Engaging frequently in online helping behaviors is associated with increased subjective well-being; this influence occurs both directly and indirectly through other variables, such as self-efficacy (Zheng et al., 2016). The present study utilized a different mediator (self-esteem) and yielded significant results. This further reinforces the established links between IAB and self-esteem (Zheng et al., 2021), as well as between self-esteem and subjective well-being (Katsantonis et al., 2023).

IAB, or internet altruistic behavior, is manifested in various forms, including online experience sharing (internet sharing), encouraging friends in comment sections (internet support), and warning others about online scams (internet reminding) (Zheng & Zhao, 2015). These helping behaviors can elicit positive responses and appreciation from others, thereby fostering positive self-regard and self-confidence (Luo et al., 2023). In other words, individuals feel worthy, useful, and competent. Research indicates that self-esteem is positively correlated with life satisfaction (Diener & Diener, 1995), increased self-esteem enables individuals to perceive their lives as meaningful and satisfying (cognitive SWB).

Although self-esteem mediated the relationship between IAB and cognitive SWB (life satisfaction), the hypothesis that self-esteem mediates the relationship between IAB and affective SWB (positive affect) was not supported. Instead, IAB directly affected affective SWB without a mediator; in fact, the variance explained by IAB and self-esteem in affective SWB (30%) was larger than that in cognitive SWB (20%). This finding can be explained by the inherent characteristics of affective SWB (positive affect) itself, which is characterized by spontaneous feelings of happiness within a specific time period. Affective SWB is categorized as high when positive emotions predominate over negative emotions at a given time (Diener, 1984). In this study, the affective SWB instrument captured positive affect experienced over the past week (Watson et al., 1988). This condition contrasts with cognitive SWB, which is based on long-term life evaluations (Diener, 1984). Engaging in internet altruistic behavior may generate positive experiences or positive feedback from others, instantly eliciting feelings of pleasure at that moment without requiring the prolonged psychological process involving self-esteem.

Furthermore, since self-esteem is evaluative in nature, specifically, an individual's evaluation of themselves (Rosenberg, 1965), the variable is conceptually closer to life satisfaction, which is a cognitive SWB, rather than momentary emotional experiences (affective SWB). Diener et al. (1999) emphasized that SWB consists of two distinct components (cognitive and affective), which do not always share the same predictors. Thus, the mechanism explaining the relationship between IAB and life satisfaction (cognitive SWB) may differ from the mechanism explaining the relationship between IAB and positive affect (affective SWB). This was demonstrated in the present study through the differing roles of self-esteem in explaining the relationship between IAB and each SWB component. Several factors that could be explored as mediating variables in the relationship between IAB and affective SWB include connectedness with

others (Liao & Weng, 2018), gratitude (Liao & Weng, 2018), and meaning in life (Lv et al., 2024).

In terms of the variance explained, the model for affective SWB (30%) was larger than that for cognitive SWB (20%). This indicated that IAB more readily elicited positive affect compared to life satisfaction. Life satisfaction is a more stable and complex construct that involves profound reflection and evaluation, and is influenced by factors beyond the internet. According to Diener and Diener (1995), other variables besides self-esteem influence overall life satisfaction, such as financial satisfaction and social relationships (family and friends). Furthermore, based on a study of Chinese college students (Du et al., 2017), relational self-esteem contributes more significantly to subjective well-being (including life satisfaction) than personal and collective self-esteem. Relational self-esteem refers to self-perception derived from an individual's relationships with significant others, such as a sense of pride in being part of one's family. Research using a longitudinal design demonstrated that relational self-esteem is a significant predictor of subjective well-being one month later, even after controlling for prior personal self-esteem and baseline life satisfaction (Du et al., 2017). Consistent with these findings, other research indicates that relationship harmony is a significant predictor of life satisfaction, much like self-esteem (Kwan et al., 1997). This suggests that in Eastern cultures, family ties, relational self-esteem and relationship harmony warrant careful consideration. Future research is encouraged to explore these factors (financial satisfaction, social relationships, relational self-esteem, and relationship harmony) when investigating IAB within the context of Indonesian culture.

Several limitations in this study should be noted. First, this study employed a cross-sectional design, wherein all variables were measured at a single point in time; consequently, causal relationships could not be established among IAB, self-esteem, and SWB. To draw accurate conclusions, the mediating variable should ideally be measured after the independent variable but before the dependent variable (Baumeister et al., 2026). Therefore, a longitudinal design would be more appropriate for future studies.

Additionally, this study relied on self-report measures, making it susceptible to social desirability bias. Social desirability involves exaggerating responses to align with social norms and be perceived favorably by others (Bernardi & Nash, 2023). While this issue frequently arises in survey research, it can be mitigated through experimental designs, observational methods, or by incorporating a specific social desirability scale to statistically control for its effects in the analysis (Bernardi & Nash, 2023).

Another limitation concerns the sampling technique used in this study. Participants were recruited via social media using convenience sampling, which is a non-probability sampling technique characterized by the lack of equal opportunity for all population members to participate (Stratton, 2021). In this study, the research invitation was distributed through social media, and participants voluntarily signed up; thus, only a specific subset of the population became involved in the research (Stratton, 2021). This was reflected in the participants' demographic profiles, where the majority resided in East Java, particularly Surabaya. Consequently, the sample was not fully representative of the current emerging adult population in Indonesia. The main drawback of convenience sampling is the limited generalizability of the findings, meaning that the results may only apply to the specific participants involved in this study (Stratton, 2021).

Finally, this study utilized a self-developed IAB instrument due to the scarcity of research on validated IAB measures (Zheng et al., 2016; Zheng & Zhao, 2015). Consequently, a psychometric validation study of the IAB scale within the context of Indonesian culture is highly warranted.

Despite these limitations, the findings of this study suggested that online interactions do not inherently exert a negative impact on the SWB of emerging adults. Instead, constructive behaviors such as IAB should be fostered, given their positive influence on both life satisfaction and positive affect. Young people can be guided toward utilizing the internet for prosocial purposes, such as helping others altruistically. While previous research has shown that receiving social support can enhance happiness or subjective well-being (Tan & Sumargi, 2025), the results of the present study demonstrated that providing social support through IAB can similarly elevate SWB. Thus, active engagement in virtual communities to perform prosocial acts, such as organizing charitable donations or community service, is beneficial for the younger generation as it promotes IAB (Utami et al., 2025). Therefore, digital literacy initiatives that encourage young people to engage in constructive online activities are essential, given that technology use is unavoidable in modern life (Verduyn et al., 2017). Simple actions, such as sharing and resharing uplifting information with others, particularly those in need, serve as accessible ways to practice IAB (Simanjuntak, 2021).

CONCLUSION

In conclusion, self-esteem served as a significant mediator between IAB and cognitive SWB, but it did not mediate the relationship between IAB and affective SWB. This indicated that self-esteem plays a role when individuals make cognitive evaluations of their lives. In contrast, IAB exerted a direct effect on the elicitation of positive affects without operating through self-esteem.

Several directions for future research are suggested. First, utilizing a longitudinal design is recommeded to establish the positive effects of IAB and self-esteem on SWB. Alternatively, future studies could employ an experimental design with observational methods to directly measure individuals' IAB. Second, future research should recruit participants from various regions across Indonesia using a cluster sampling technique to enhance the generalizability of the findings to the broader Indonesian emerging adult

population. Finally, given the limitations of the current IAB instrument within the Indonesian cultural context, future studies are encouraged to validate the scale developed in this research, especially since it demonstrated relatively good internal consistency (α = .813).

Overall, this study offers valuable insights for emerging adults to continue engaging in prosocial activities that align with Indonesian cultural values. Online helping behavior (IAB) was shown to benefit the actors themselves; in other words, helping others ultimately leads to life satisfaction and happiness, both of which play a crucial role in individual mental health.

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ETHICAL APPROVAL

The study adhered to ethical principles for research involving human participants. Participation was voluntary, informed consent was obtained from all participants, and confidentiality and anonymity were maintained throughout the research process.

DECLARATION OF INTEREST

The authors declare no conflicts of interest.

TRANSPARENCY OF DATA

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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AUTHORS' CONTRIBUTION

EP contributed to the study conceptualization, research design, manuscript preparation, and manuscript review. AMS contributed to the methodological development, data analysis, interpretation of the findings, and manuscript writing. AIM contributed to the data collection and manuscript preparation. All authors reviewed and approved the final version of the manuscript.

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