

Peer Interaction in School as a Mediator Between Adolescent Self-Esteem and Coping Strategies

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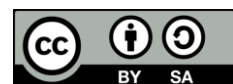
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ABSTRACT

Coping strategies help manage stress in challenging social contexts, especially for adolescents facing unique developmental challenges. Their effectiveness depends on context, individual traits, social responses, and sociocultural factors. This study aimed to examine the model of adolescents' coping strategies in the social context, viewed from the peer interaction in school, affected by adolescents' self-esteem. 530 senior high school students were involved as participants. There were 245 male students and 285 female students aged between 15 and 18 years old ($M= 16.52$, $SD=0.673$) in five schools in Bantul. Coping strategy, peer interaction, and self-esteem scales were developed to collect data. Data were analysed using Partial Least Squares-Structural Equation Modelling (PLS-SEM) with SmartPLS 4. The model exhibited a good fit and showed that adolescents' coping strategies were affected by self-esteem and mediated by peer interaction. This study demonstrated the significant effect of self-esteem on peer interactions among adolescents. Adolescents may possess a good coping strategy when having good peer interaction and self-esteem. Further findings indicate that most participants' problem-focused and emotion-focused coping strategies, peer interaction, and self-esteem were categorized as the low and high category. However, the low category of each variable needs to be considered

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Introduction

The term coping strategy often refers to an individual's way of managing their emotion and behaviors when addressing stressful internal and external demands ([Stephenson & DeLongis, 2020](#)). This process is also common among adolescents, who frequently face a range of stressors during this developmental period. Coping strategies are classified as problem-focused, addressing stressors directly, or emotion-focused, regulating emotional responses. These strategies are essential for managing developmental and social challenges affecting emotional and behavioral functioning.

While problem-focused coping is generally associated with more adaptive responses, many adolescents tend to rely on emotion-focused strategies. Adolescents with problem-focused coping strategies tend to have more adaptive ways to address problems and have better perceptions when facing stressful situations ([Özer & Korkman, 2022](#)). Prior study in Cibinong, West Java, Indonesia, reported that 71.9% of 341 adolescents employed emotion-focused coping strategies such as avoiding and ignoring problems, withdrawals, and hiding problems ([Novitasari & Hamid, 2021](#)). Meanwhile, other studies reported that 50-72% of 384 adolescents in Indonesia engaged in destructive coping mechanism, such as hopelessness, self-harm, suicidal intention, showing eating and sleeping disorder, uncontrolled anger, giving up, and doing nothing ([Kaligis et al., 2021](#)). These studies demonstrate that a few adolescents in Indonesia still find it difficult to effectively cope with conflicts in their life.

The problem of adolescent coping strategies in Indonesia, especially at school age, needs further attention, especially since coping strategies are related to adolescent academics performance ([Cao et al., 2021](#); [Gustems-Carnicer et al., 2019](#); [Shih, 2015](#)), considering that the results of the PISA (Program for International Student Assessment) assessment of Indonesia's academic achievement in 2018 ranked sixth from the bottom ([McComas, 2014](#)). Previous research found that students who engage in less cognitive avoidance and more problem-focused coping achieve higher academic performance ([Gustems-Carnicer et al., 2019](#)). Active coping strategies are usually problem-solving or task-oriented, which would help students refocus their minds, exert more effort to overcome challenges, or develop a pathway to do better in class ([Cao et al., 2022](#)). When facing or experiencing stress, students with active coping strategies have the potential to improve their academic performance, whereas students with denial coping strategies lack the desire to succeed academically ([Cao et al., 2022](#)). Other research showed that students who applied engagement and support seeking coping strategies when facing academic challenges showed lower levels of academic burnout ([Shih, 2015](#)).

It is important for an adolescent to have a proper coping strategy. It is also necessary to scrutinise factors supporting one's coping strategies. Previous studies show that one's coping strategy is spiritual and social support from parents and friends online ([Defina & Rizkillah, 2021](#)), perception ([Solicha & Amalia, 2022](#)) and hospitality community with scheduled activities such as monthly recitation, substance use counselling, and free medical treatment ([Kurniawan, 2018](#)). In addition, the previous study suggests that peer support is associated with an increase in effective coping ([Richard et al., 2022](#)). Therefore, to attain peer support, interactions between peers are necessary. Peer relationships develop during interactions between individuals in groups whose members have similar average ages and psychological development ([Oktaviani et al., 2023](#)).

Previous studies have shown that peer interaction contributes to one's coping strategies ([Graber et al., 2016](#); [Oktaviani et al., 2023](#); [Yoo, 2019](#)). A study of 505 college students in Jakarta found that peer relationships enhance students' coping strategies, students received high levels of trust and insight from their peers ([Oktaviani et al., 2023](#)). A study in England involved 409 adolescents and showed that friendship quality might enhance a adaptive coping style and minimize disengaged and externalizing coping style, meaning that a close friendship may serve as a proper mechanism for improving coping skills ([Graber et al., 2016](#)). Another study in 517 South Korean high school students reported that peer relationship might, directly and indirectly, affect one's self-esteem, behavior focused-coping, and

emotion focused-coping styles ([Yoo, 2019](#)). To conclude, good peer interaction tends to improve adolescents' coping strategies.

While the previous study showed that peer interaction positively affects self-esteem ([Yoo, 2019](#)), we assumed that self-esteem may positively affect peer interaction based on cultural differences and individuals' condition. Our assumption was supported by A meta-analysis study based on longitudinal data, which found that self-esteem affects peer interaction by 0.07. Although the effects are small, this supports the possibility that a person displays perceived signs that convey their internal self-evaluation to others, thereby shaping social relationship patterns. Other assumptions on cultural differences affecting the self-esteem role in peer interaction are supported by ([Lestari, 2017](#)), who conducted a study on adolescents in Malang and found that self-esteem directly contributed to peer interaction and indirectly through the moderating role of shyness. The finding shows that adolescents with higher self-esteem tend to have better peer relationships and a broader social environment. In contrast, individuals with lower self-esteem find it more difficult to build a relationship ([Lestari, 2017](#)). A previous study conducted by Lestari (2017) took place in Malang with a Javanese cultural background, similar to the cultural background of participants in this study. Shyness in Lestari (2017) represents one of the effects of shame culture, one of the most important norms in Javanese culture ([Muttaqin & Saputra, 2019](#)). One's self-esteem is related to their confidence in skill, ability, and social relationships ([Abdel-Khalek, 2016](#)). The level of an individual's self-esteem may positively influence his/her social relationships ([Marshall et al., 2014](#)). Meta-analytical study shows that self-esteem affects one's behavior and further affects social relationships ([Harris & Orth, 2020](#)). In other words, one's perceived ability to build social relationships may affect how he/she interact with his/her friends.

The term self-esteem refers to an individual's self-evaluation, made and maintained by the individual regarding themselves ([Abdel-Khalek, 2016](#)). Self-evaluation is pivotal in determining how individuals feel, think, and behave. Negative views on oneself, one's self, situation, and the future may cause individuals to have a negative orientation to a problem ([Özer & Korkman, 2022](#)). Individuals are different in terms of stable self-esteem and response to stimuli; a person's level of self-esteem often correlates with other life outcomes ([Westfall, 2020](#)). Previous studies have reported the effect of self-esteem on coping strategies ([Meida & Ariana, 2021](#); [Özer & Korkman, 2022](#)). Adolescents with higher self-esteem may overcome challenging situations with positive attitudes, whereas adolescents with lower self-esteem tend to exhibit defensive attitudes due to a limited repertoire of positive attitudes. Our research on 76 adolescent victims of childhood emotional abuse in Indonesia showed that the better the adolescents self-esteem, the more effective the coping strategies they applied ([Meida & Ariana, 2021](#)). It can be concluded that self-esteem contributed to coping strategies.

Based on the description above, it could be concluded that self-esteem and peer interaction may affect one's coping strategies and self-esteem contribute to one's peer interaction. This study may extend the existing body of knowledge on coping strategies, considering that developing self-reliance and peer relationships are among important developmental tasks ([Güroğlu, 2022](#)). In addition, this study may serve as further consideration for schools in developing mental health programs and educators in dealing with students' problems with their peers. This study specifically aims to test the theoretical model of the role of peer interaction in relationship between self-esteem and coping

strategies. No studies have examined the mediating role of peer interaction in the relationship between self-esteem and coping strategies. In addition, the research enriches previous literature, more research has been conducted on the effects of peer interaction on self-esteem instead of self-esteem on peer interaction. It also addresses the limitations of ([Harris & Orth, 2020](#)) research, showing that self-esteem has lower effects on peer interaction compared to romantic relationships and parents. This study proposed several hypotheses:

H1: Self-esteem positively affects coping strategies.

H2: Peer interaction positively affects coping strategies.

H3: Self-esteem positively affects peer interaction

H4: Peer interaction mediates the relationship between self-esteem and coping strategies.

Method

Participants

As many as 530 senior high school students, 15-18 years of age ($M = 16.52$, $SD = 0.79$) participated in this study (245 male students, 285 female students). They were recruited from five schools in Bantul Regency, Yogyakarta Province, Indonesia. The sampling technique used was convenience sampling, based on the availability and accessibility of the research subjects.

Instruments

The research instruments were developed based on the theory that supported each variable. Validity testing was conducted using construct validity by examining factor loading values and Average Variance Extracted. Reliability testing was conducted using internal consistency techniques by examining Cronbach's alpha and Composite reliability values.

The coping strategies scale was developed based on theories stated by VER ([Carver & Connor-Smith, 2010](#); [Lazarus & Folkman, 1984](#)). This 46-item scale comprising two parts: 1) Problem-focused coping strategies, which included active coping, planning, suppression of competing activities, restraint, and seeking social supports, and 2) Emotion-focused coping strategies which included four indicators: escapism, minimization, self-blame, and positive reappraisal. The scale used a 7-point Likert scale, ranging from 1 (represents low-intensity behavior) to 7 (high-intensity behavior). The coping strategies scale was deemed to be valid and reliable, indicated by Cronbach's alpha 0.84, Composite reliability 0.84, and Average Variance Extracted (AVE) 0.56.

The peer interaction scale was developed following the theory proposed by Mussen et al. ([1990](#)), consisting of thirty-three items with several indicators, namely a) tolerance, b) flexibility, c) enthusiasm, d) being energetic, e) reasonable behaviors, and f) positive urge. It applied a 7-point Likert scale, ranging from 1 (low-intensity behavior) to 7 (high-intensity behavior). The peer interaction scale was found to be valid and reliable, indicated by Cronbach's alpha 0.88, Composite reliability 0.88, and Average Variance Extracted (AVE) 0.51.

The self-esteem scale was developed based on theories stated by ([Baumeister et al., 1993](#); [Coopersmith, 1967](#); [Dutton & Brown, 1997](#)). Indicators of self-esteem comprised a) self-management, (b) responsiveness and adaptiveness, c) self-evaluation, d) competence and achievement, e) self-capacity, and f) adherence to values. This 35-item scale used a 7-point Likert scale, in which 1 represents low intensity, and 7 represents high intensity. The

self-esteem scale was stated to be valid and reliable, indicated by Cronbach's alpha 0.82, Composite reliability 0.83, and Average Variance Extracted (AVE) 0.59.

Procedures

This study was approved by Universitas Ahmad Dahlan, Yogyakarta Provincial Government, Regional Education Agency, and the schools. We asked school counsellors to identify students who could participate in this study. They were recruited based on several criteria, i.e., 11th-grade students living together with parents whose educational background was at least Senior High School. Once participants were recruited, we set schedules for data collection. We visited schools and distributed scales to students. Four research assistants and five school counsellors helped students to respond to the scale. Students in this study also signed an informed consent form. We explained the purpose and procedures for responding to the instrument and told them that their data and responses were kept confidential. Data were collected in two months, and each participant received a voucher worth at IDR 50,000 (approximately USD 3.30) for their participation.

Data Analysis

Descriptive statistical analysis was applied to describe each variable, specifically for coping strategies described by type, i.e., problem-focused coping strategies and emotion-focused coping strategies. The mediating role of peer interaction in the relationship between self-esteem and adolescents' coping strategies was examined using Partial Least Square-Structural Equation Modeling (PLS-SEM) with Smart-PLS 4. The PLS-SEM analysis comprised two stages. In the first stage, the inner model was evaluated using R-square (R^2) value, predictive relevance (Q^2), Standardized root mean square residuals (SRMR), and goodness of fit (GoF) index). The following formula was used to estimate the predictive relevance:

$$Q^2 = 1 - [(1 - R^2_1) \times (1 - R^2_2)]$$

Meanwhile, GoF index was estimated using the following formula:

$$\text{GoF} = \sqrt{(\text{mean communality} \times \text{mean } R^2)}.$$

In the second stage, hypotheses were tested using Bootstrapping method. Hypotheses were supported if the p-value < 0.05. The mediation effect was examined based on the Variance Accounted For (VAF), estimated using the following formula:

$$\text{VAF} = \text{indirect effect} / (\text{direct effect} + \text{indirect effect})$$

A VAF value higher than 80% represent full mediation, the score between 20% and 80% represent partial mediation, and a score less than 20% indicates no mediation ([Hair et al., 2021](#)).

Results

Descriptive Analysis

Three categories, including low, medium, and high, were used to describe the distribution of data characteristics based on levels. Problem-focused coping strategies exhibited a score range of 35-17, while emotional-focused coping strategies exhibited a score range of 21-138. The peer interaction and self-esteem showed a score range of 45-225 and 53-234, respectively. Both problem-focused and emotion-focused coping strategies, peer interaction, and self-esteem of most participants were in the low and high category. However, the low category of each variable needs to be considered, as more than 36% of participants were in

the low category. These findings were consistent with the categories of several indicator variables, which dominated by low and high categories.

The problem-focused coping indicator with the most participants in the low category was seeking social support (34.72%). While the emotion-focused coping indicators, namely escapism, minimization, and self-blame, constitute maladaptive coping for most participants in adequate to high categories, and positive reappraisal refers to adaptive coping for 39% of participants in low categories. Other findings revealed that peer interaction and self-esteem indicators with the most participants in the low category were tolerance (34.91%), flexibility (34.34%), and responsiveness and adaptiveness (33.58%). [Table 1](#) presents descriptive data.

Table 1
Descriptive analysis result

	Mean	SD	Low		Adequate		High	
			F	(%)	F	(%)	F	(%)
Problem-focused coping	100	27.41	204	(38.49)	126	(23.70)	200	(37.74)
Emotion-focused coping	84.4	22.41	195	(36.79)	162	(30.57)	173	(32.64)
Peer interactions	133	37.11	198	(37.36)	141	(26.60)	191	(36.04)
Self-esteem	142	39.11	198	(37.36)	125	(23.58)	207	(39.06)
<i>Problem-focused coping</i>								
Active coping	20.31	7.02	161	(30.38)	193	(36.42)	176	(33.21)
Planning	19.90	7.15	173	(32.64)	179	(33.77)	178	(33.58)
Suppression of competing Activities	20.08	7.50	181	(34.15)	165	(31.13)	184	(34.72)
Restrain coping	19.89	7.20	182	(34.34)	173	(32.64)	175	(33.02)
Seeking social support	19.82	7.19	184	(34.72)	173	(32.64)	173	(32.64)
<i>Emotion-focused coping</i>								
Escapism	24.41	8.59	164	(30.94)	190	(35.85)	176	(33.21)
Minimization	24.17	9.02	173	(32.64)	178	(33.58)	178	(33.58)
Self-blame	20.02	7.17	168	(31.70)	196	(36.98)	166	(31.32)
Positive reappraisal	15.77	5.80	207	(39.06)	164	(30.94)	169	(31.89)
<i>Peer interactions</i>								
Tolerance	24.09	9.24	185	(34.91)	161	(30.38)	184	(34.72)
Flexibility	23.73	8.95	193	(36.42)	163	(30.75)	174	(32.83)
Enthusiasm	24.16	9.09	175	(33.02)	174	(32.83)	181	(34.15)
Being energetic	24.36	8.89	177	(33.40)	159	(30)	194	(36.60)
Reasonable behaviours	16.05	5.82	172	(32.45)	190	(35.85)	168	(31.70)
Plan activities	20.30	7.62	166	(31.32)	181	(34.15)	183	(34.53)
<i>Self-esteem</i>								
Self-management	24.09	9.01	176	(33.21)	155	(29.25)	199	(37.55)
Responsive and adaptiveness	23.88	9.05	178	(33.58)	167	(31.51)	185	(34.91)
Self-evaluation	25.01	8.82	152	(28.68)	170	(32.08)	208	(39.25)
Competence and achievement	24.85	8.97	158	(29.81)	169	(31.89)	203	(38.30)
Self-capacity	20.26	7.34	176	(33.21)	162	(30.57)	192	(36.23)
Adherence to value	23.83	8.75	163	(30.75)	186	(35.09)	181	(34.15)

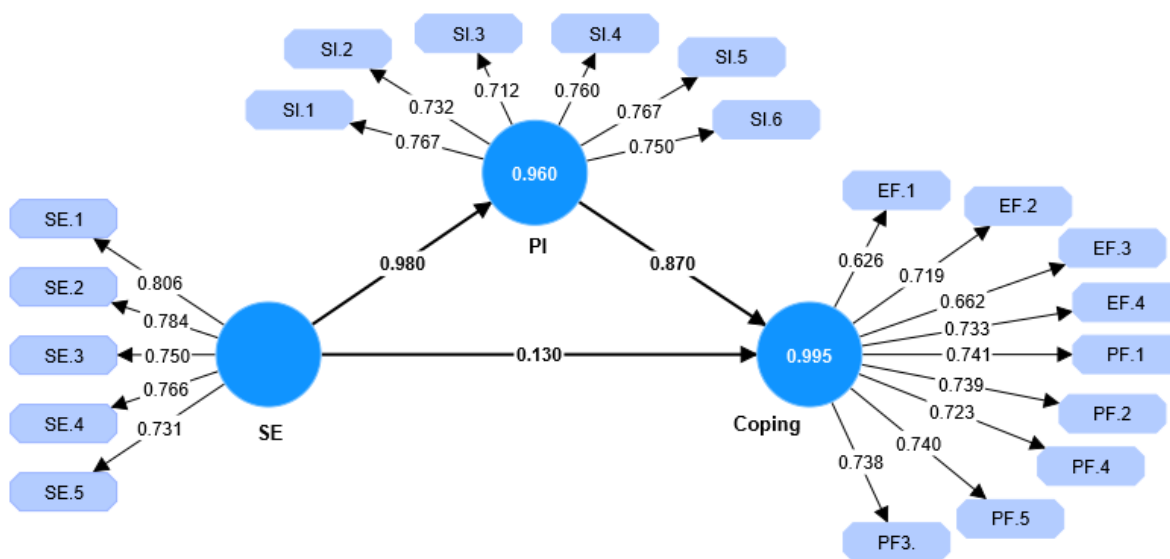
Inner Model Evaluation

The research model was evaluated based on R^2 (R-Square), Q2 (Predictive Relative), SRMR (Standardized Root Mean Square Residual), and GoF (Goodness of Fit) Index. The coping strategies and peer interaction exhibited an R^2 score of 0.99 and 0.96, respectively. The score indicated that self-esteem and peer interaction affected coping strategies by 99.5%, while

self-esteem affected peer interaction by 96%. The developed structural model was proven to be relevant, as supported by Q^2 of 0.99 ($Q^2 > 0$). An SRMR value of 0.04 ($SRMR < 1.00$) indicated a good fit. The GoF value of 0.63 ($GoF > 0.36$) proved that the theoretical model could depict the effect of exogenous variables on the mediating and endogenous variables. The inner model analysis shows that the proposed model exhibited a good fit. [Figure 1](#) below presents the final version of the proposed model.

Figure 1

Final Model



Hypothesis

The hypothesis analysis result showed H1 is supported by self-esteem positively affects coping strategies. H2 is supported by peer interaction positively affects coping strategies, and H3 is supported by self-esteem positively affects peer interaction. H4 is supported, whereas peer interaction mediates the relationship between self-esteem and coping strategies. The effect of self-esteem on coping strategies exhibited a significant increase after being mediated by peer interaction. The mediation test showed that peer interaction has an indirect effect, indicated by VAF of 0.868 ($VAF > 0.80$). The following [Table 2](#) displays the hypothesis analysis result.

Table 2

Hypothesis Analysis Result

Path	Coefficients	<i>t</i> value	<i>p</i> values
Direct effect			
Self-esteem -> Coping	0.13	7.81	0.000
Peer interactions -> Coping	0.87	52.96	0.000
Self-esteem -> Peer interactions	0.98	571.66	0.000
Indirect effect			
Self-esteem -> Peer interactions -> Coping	0.85	53.53	0.000
Total effect			
Self-esteem -> Coping Strategies	0.98	634.37	0.000

Correlation between variable indicators

The analyzed results found that each variable indicator had a positive correlation. The results of the analysis between coping indicators and peer interaction indicators showed that planning, restraint coping, and self-blame had the highest relationship with tolerance. Escapism had the highest correlation with flexibility, and positive reappraisal has the highest correlation with positive urge. Both active planning and minimization had the highest correlation with being energetic, while suppression of competing activities and seeking social support had the highest correlation with self-capacity.

Other correlation test results between coping indicators and self-esteem indicators found that active coping, planning, suppression of competing activities, minimization, and positive reappraisal have the highest relationship with self-management. Meanwhile, escapism and minimisation have the highest correlation with responsiveness and adaptiveness, and restraint coping has the highest correlation with competence and achievement. [Table 3](#) presents correlation test results.

Table 3

Pearson's correlation between variable indicators

	Peer interaction						Self-esteem				
	P1	P2	P3	P4	P5	P6	S1	S2	S3	S4	S5
<i>Problem-focused coping</i>											
Active coping	0.56	0.55	0.51	0.57	0.54	0.56	0.59	0.55	0.55	0.56	0.53
Planning	0.59	0.52	0.55	0.55	0.55	0.54	0.58	0.57	0.56	0.57	0.51
Suppression of competing activities	0.56	0.54	0.51	0.53	0.59	0.57	0.58	0.57	0.55	0.53	0.52
Restrain coping	0.56	0.54	0.53	0.54	0.55	0.53	0.57	0.54	0.52	0.58	0.50
Seeking social support	0.52	0.53	0.54	0.57	0.58	0.55	0.62	0.58	0.53	0.57	0.51
<i>Emotion-focused coping</i>											
Escapism	0.42	0.51	0.46	0.47	0.49	0.49	0.48	0.51	0.46	0.49	0.44
Minimization	0.57	0.53	0.49	0.57	0.54	0.53	0.58	0.55	0.52	0.54	0.52
Self-blame	0.56	0.47	0.46	0.49	0.50	0.49	0.51	0.53	0.50	0.47	0.51
Positive reappraisal	0.56	0.50	0.54	0.57	0.55	0.57	0.56	0.51	0.54	0.56	0.56

Discussion

The following research results explained that self-esteem contributed to coping strategies. This result suggests that the better the self-esteem of adolescents, the better the coping strategies they can use to deal with their problems. Adolescents with high self-esteem tend to perceive situations as controllable and react with strategies aimed at changing the cause of the problem ([Lane et al., 2002](#); [Özer & Korkman, 2022](#)). In contrast, adolescents with low self-esteem tend to perceive difficult tasks as beyond their control and consequently tend to use emotion-focused strategies to reduce negative feelings associated with stressors ([Lane et al., 2002](#)). This finding supported earlier research that explained a significant and positive relationship between self-esteem and coping strategies in Aydin (Turkey) and Indonesia ([Meida & Ariana, 2021](#); [Özer & Korkman, 2022](#)).

The analysis result proved that self-esteem positively affected peer interaction. Self-esteem derived from self-evaluations may affect relationship outcomes such as satisfaction, trust, and intimacy ([Harris & Orth, 2020](#)). Once adolescents' express beliefs related to themselves, it shapes social relationships such as being open, tolerance, willing to help, or enthusiasm. This finding supports a previous study by Lestari ([2017](#)) showing that high self-

esteem positively affects peer interaction. It also suits the Javanese cultural background in which this study took place. hat many adolescents still exhibited low self-esteem and peer interaction, which was possibly accounted for by the significant influence of Javanese shame culture ([Muttaqin & Saputra, 2019](#)). The previous study also reported that shyness may affect the relationship between self-esteem and peer interaction. However, improper expression of shyness can potentially lead to fear, disbelief, and low self-esteem ([Chilton, 2012](#)).

Another finding shows that peer interaction exhibits a strong effect on coping strategies. This explains that the higher the adolescents peer interaction, the better their coping strategies. In adolescence, peer relationships gain more complexity. Concurrent with the growing importance of peers comes an increase in the complexity of the peer system; friends' opinions provide an important impact on individual decisions ([Scholte & Van Aken, 2006](#)). Good peer interaction promotes an adaptive coping strategies ([Graber et al., 2016](#)). and develops active problem-solving skills ([Mota & Matos, 2013](#)). This study supports previous findings in Portugal ([Mota & Matos, 2013](#)), England ([Graber et al., 2016](#)), and South Korea ([Yoo, 2019](#)), showing that peer interaction positively affects coping strategies regardless of the cultural background.

The study's result proved that the theoretical model fitted the empirical data, demonstrating the mediating role of peer interaction in the relationship between self-esteem and coping strategies. These relationships have not been extensively studied. This result showed that the theoretical model could depict the effect of all exogenous variables on the mediating and endogenous variables in this study. It also shows that the effect of self-esteem on coping strategies increases when peer interaction serves as the mediating variable. This result indicates that a higher level of self-esteem may influence adolescents' peer interaction. Good peer interactions may also improve their coping strategies. Self-esteem refers to the self- evaluation that individuals make and maintain about themselves ([Abdel-Khalek, 2016](#)). Self-evaluation forms a crucial part of determining an individual's feelings, thoughts, and actions, which can influence social relationships ([Harris & Orth, 2020](#)), and the selection of coping strategies ([Meida & Ariana, 2021](#); [Özer & Korkman, 2022](#)). In other words, the self-esteem that a person feels in building social relationships can influence the way they interact with their friends. Positive peer relationships provide crucial emotional support, helping adolescents feel less alone and more capable of managing their feelings ([Butler et al., 2022](#)). They can also learn new coping skills by watching how their peers handle stress and conflict ([Utami, 2024](#)).

The research findings found that tolerance was positively correlated with planning, restraint coping, and self-blame. This describes how tolerance had positive and negative impacts on participants. Tolerance is being lenient with negative interference and embracing disagreeable differences ([Verkuyten & Kollar, 2021](#)). Tolerance reflects self-control to prevent unwanted behavior ([Verkuyten et al., 2020](#)), in line with planning and restraint coping which involves self-control in responding to stressful internal and external demands ([Carver & Connor-Smith, 2010](#)). In addition, tolerance could put a psychological burden on individuals since it could be used as an avoidance method due to fear of offending other more dominant people and could result in negative affect and lower well-being ([Verkuyten et al., 2020](#)). Besides, the participant's Javanese cultural background was another contributor to tolerance being positively related to self-blame. Javanese culture, especially in Bantul, Yogyakarta Special Region Province, holds the principles of *isin* (being ashamed), *wedi* (afraid of engaging in wrongdoing), and *sungkan* (deference) ([Diananda, 2021](#)). This

principle leads to shyness, fear, and discomfort when behaviors are perceived to be incompatible with others or norms ([Prasanti, 2013](#)).

According to this study, problem-focused and emotional-focus coping, peer interaction, and self-esteem of most participants were categorized as low and high. This shows that, most participants use problem-focus coping properly but also tend to use emotional-focus coping, possess decent peer interaction and self-esteem, but several participants need to improve their peer interaction and self-esteem. In line with the category of coping indicators, namely escapism, minimization, and self-blame were categorized as low and high, while several adolescents also had positive reappraisal and seeking social support in the low category. This indicates that a few adolescents in this study had difficulty seeking social support and struggled to understand the wisdom behind their problems, leading to a tendency to avoid problems, deny the existence of problems, or blame themselves unnecessarily. As a transitional period, adolescents begin to spend less time with their parents and more time with their peers, sharing their problems with them more ([Papalia et al., 2010](#)). Adolescents are starting to make increasingly independent decisions about how to explore the world, but with a very limited experience base, it is enough to create confusion and difficulties for adolescents ([McLaughlin et al., 2015](#)), so they tend to use emotion-focused coping.

These findings support several previous studies, the of high-category of problem-focused coping strategies was in line with the results of a previous study with a Javanese cultural background in Kroya, Central Java, which found 217 middle school students used adaptive coping with a focus on integrity, growth processes, learning, and goal attainment ([Agustin et al., 2022](#)). The finding of the high category of emotion-focused coping strategies, in line with study in Cibinong, West Java found that most high school students in Cibinong, West Java employed emotion-focused coping strategies such as avoiding and ignoring problems, withdrawals, and hiding problems ([Novitasari & Hamid, 2021](#)). Other previous studies show that adolescents from various regions in Indonesia engage in destructive coping mechanisms, such as avoiding problems (92%), self-harm (46%), suicidal intention (57%), showing eating and sleeping disorders (88% and 92%), uncontrolled anger (70%), giving up and doing nothing (75%) ([Kaligis et al., 2021](#)).

This study implied the need for special attention to developing adolescents' self-esteem, considering that many adolescents exhibited low self-esteem, which may lead to low peer interaction and coping strategies. Parents' active role is pivotal in developing adolescents' character to improve their self-esteem. Meanwhile, the school may help improve students' self-esteem by developing a program that includes the active role of peers. Better levels of peer interaction encourage adolescents to employ adaptive coping strategies throughout academic challenges. Developing positive peer interactions in the classroom is crucial to this effect. Further findings indicate that some adolescents have difficulty seeking social support and positive appraisal. Schools can help provide social support in the form of attractive guidance counselling programs so that adolescents can confide in teachers and have alternatives for help.

This study was limited to participants in Bantul, and hence future studies are recommended to involve broader regions with different norms and cultures from Javanese ones. It also examined only problem and emotion-focused coping strategies. Therefore, future studies are recommended to scrutinize other types of coping strategies with a more comprehensive analysis. This study focused on personal factors and peer relationships in

school, future research may develop the contribution of parents and school management to coping strategies.

Conclusion

This study suggests that peer interaction in schools provides a mediating influence on the relationship between self-esteem and coping strategies. Therefore, positive peer interaction enhanced the contribution of self-esteem to coping strategies. This research also discovered that problem-focused and emotion-focused coping strategies, peer interaction, and self-esteem of most participants were in the low and high category. However, the low category of each variable needs to be considered.

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Declarations

Author contribution. Conceptualization: A.M. Data curation, A.M and F.O. Formal analysis: A.M. Investigation: A.M. and FO. Method: A.M. Validation, A.M. and F.O. Visualization: F.O. Writing original draft preparation: A.M. Writing, review and editing: A.M., and F.O. All authors have read and agreed to the published version of the manuscript.

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Conflict of interest. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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