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School-Based Peer Group Support as a Psychosocial Strategy to Promote Mental Health in Adolescents: A Quasi-Experimental Approach

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INTRODUCTION

Adolescence is a formative developmental stage bridging childhood and adulthood, characterized by rapid emotional, cognitive, and social transitions that can make young people more vulnerable to mental health disturbances (1). During this period, adolescents negotiate increasing independence, peer influence, and

identity formation while still requiring guidance and emotional support from parents, schools, and their broader community (2). When these developmental challenges are compounded by stressful life events or adverse environments such as family conflict, abuse, poverty, or social discrimination, the risk of developing mental health problems is greatly amplified (3).

Abstract

Background: Adolescents are vulnerable to psychological distress due to rapid developmental changes and social pressures. School-based psychosocial strategies such as peer group support may enhance early mental-health promotion.

Objective: To evaluate the effectiveness of peer group support on mental health indicators among junior high school students.

Methods: A quasi-experimental pretest-posttest control group design was conducted among 84 adolescents aged 12–15 years at SMPN 4 Klari, Karawang Regency, Indonesia. The intervention group received 8 peer-support sessions across 8 weeks. Mental health was assessed using the Strengths and Difficulties Questionnaire (SDQ). Data were analyzed using paired and independent t-tests and ANCOVA.

Results: The intervention significantly improved adaptive coping (+42.4%), reduced stress symptoms (–35.8%), and increased health-maintenance behaviors (+43.1%). Between-group post-intervention differences were statistically significant ($p < .001$). Effect size analysis indicated a large treatment impact (Cohen's $d > 0.8$).

Conclusion: Peer group support effectively enhances adolescent mental health and coping abilities. Integrating peer-based interventions into school programs is recommended to foster a supportive psychosocial environment.

Keywords: peer support, adolescents, mental health, school-based intervention

Globally, mental and behavioral disorders affect more than 450 million individuals, and approximately one in four people will experience a mental disorder in their lifetime (1). Adolescents represent a large portion of this burden, with more than 16% of the world's population aged 10–19 years experiencing mental health concerns (4). In Indonesia, findings from the 2018 Basic Health Research (Riskesdas) reported that 6.1% of the population aged ≥ 15 years show symptoms of mental-emotional disorders, including anxiety and depression, with the prevalence among adolescents aged 15–24 years reaching 6.2% (5). Local data from West Java Province indicate an upward trend, with mental-emotional disorder prevalence increasing from 9.3% in 2013 to 12.1% in 2018 (6). Many adolescents still lack adequate knowledge and awareness regarding mental health, which hinders early help-seeking behaviors (7).

Psychosocial stress in adolescents may manifest through withdrawal from social interaction, difficulties concentrating in class, irritability, sleep disturbances, excessive gadget use, and decreased motivation toward academic and extracurricular activities (8). Without timely and effective intervention, these problems can escalate, negatively affecting academic achievement, interpersonal relationships, and long-term psychological resilience (9).

Peer group support has emerged as a promising school-based mental health intervention. This approach leverages natural peer relationships, where adolescents feel more comfortable sharing experiences with peers who have similar struggles, reducing the fear of stigma or judgment (10). Peer support activities often include structured group discussions, emotional expression, mentorship, and social skill-building exercises that promote supportive networks and healthier coping strategies (11). Evidence suggests that peer-led interventions can alleviate symptoms of anxiety and depression, enhance self-esteem, and foster positive behaviors through shared learning and reinforcement (12,13).

Despite the documented benefits, challenges persist in Indonesia, including limited trained facilitators, inconsistent implementation, and cultural stigma surrounding mental health which discourages youth from seeking help (14). Furthermore, there is still limited empirical

evidence examining the effectiveness of peer-support programs in junior high school settings in Indonesia, particularly in semi-urban regions such as Karawang Regency.

Given these considerations, this study aimed to evaluate the effectiveness of a structured peer group support intervention on mental health among junior high school adolescents at SMPN 4 Klari Karawang Regency. The results are expected to contribute to the development of school-based mental health programs, enhance student well-being, and provide practical recommendations for policymakers, educators, and community health practitioners involved in adolescent mental health promotion.

METHODS

Study design

This study used a quasi-experimental design with a pre-post test control group design approach to analyze the effectiveness of peer group support on adolescent mental health.

Sample

The research population is all students of SMPN 4 Klari Karawang Regency with an age range of 12–15 years which totals 450 students. The sampling technique used was purposive sampling with inclusion criteria including students aged 12–15 years, not undergoing psychological therapy or counseling, having mental health scores in the medium to high risk range based on initial screening using the Strengths and Difficulties Questionnaire (SDQ), and willing to participate in a peer group support program for 8 weeks. Exclusion criteria include students who have a history of severe mental disorders, are taking psychotropic drugs, or have significant communication limitations. Based on the calculation of the Lemeshow formula with a confidence level of 95%, a margin of error of 5%, and an estimated proportion of 50%, a sample of at least 84 respondents was obtained which was then divided into two groups, namely 42 respondents for the intervention group and 42 respondents for the control group.

Instrument

The research instrument used was a questionnaire consisting of three main parts. The first part is respondent demographic data which includes age, gender, class, and family background. The second part uses the Strengths and Difficulties Questionnaire (SDQ) which has

been validated and adapted into Indonesian with a reliability value of Cronbach's alpha of 0.847 to measure adolescent mental health. SDQ consists of 25 question items that measure five domains, namely emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems, and prosocial behavior with a likert scale of 3 points (not true=0, somewhat true=1, true=2). The third part is a peer group support process evaluation questionnaire that measures satisfaction, engagement, and perception of program benefits with 15 question items using a 4-point likert scale. Peer group support interventions were carried out for 8 weeks with a frequency of 2 meetings per week, each meeting lasting 90 minutes.

Intervention and procedure

The peer group support intervention was implemented over 8 weeks, consisting of 8 structured sessions with a duration of approximately 90 minutes per session. The intervention framework was developed based on principles of adolescent psychosocial development, group dynamics, and peer-assisted coping enhancement. Each weekly session focused on a specific thematic competency designed to progressively strengthen emotional regulation, social connectedness, and adaptive problem-solving skills.

The structured session topics included:

1. Self-introduction and group formation – establishing group identity, peer bonding, and shared expectations.
2. Building trust and psychological safety – fostering mutual respect, confidentiality, and active listening.
3. Emotional awareness and regulation – recognizing stress responses, supportive expression of emotions, and relaxation exercises.
4. Effective communication – practicing assertiveness, empathy, and conflict-resolution skills.
5. Problem-solving and decision-making – identifying challenges and collaboratively generating coping strategies.
6. Strengthening resilience – enhancing self-confidence, optimism, and overcoming adversity through positive reframing.

7. Enhancing social support networks – promoting pro-social behavior and peer-led encouragement.
8. Evaluation and future planning – reflecting on progress, reinforcing learned strategies, and goal-setting for sustained behavioral change.

Each group comprised 8–10 students to ensure optimal interaction and engagement. The sessions were facilitated by peer leaders who received 40 hours of certified training in peer counseling, communication techniques, and crisis-response guidelines. A professional **school** counselor was present throughout the sessions to monitor participant safety and provide expert oversight.

The intervention followed a standardized session manual, which included:

1. Opening check-in and warm-up activity
2. Core learning activity using collaborative games, sociodrama, or guided discussion
3. Reflection and feedback round
4. Take-home assignment for real-life application of skills

To ensure intervention fidelity, facilitators completed a session implementation checklist and underwent weekly supervision meetings with the research team. Attendance was monitored, and participants were encouraged through peer reminders and supportive reinforcement.

All participants received brief program orientation and signed an informed assent form, while parents or guardians provided written informed consent. Confidentiality, voluntary participation, and withdrawal rights were emphasized at every stage of the study. At the end of the intervention, students were provided feedback opportunities and psychological referral pathways if additional mental-health support was needed.

Data analysis

Data analysis was carried out in stages using SPSS software version 26.0. Univariate analysis was used to describe respondent characteristics and distribution of mental health scores before and after the intervention. The data normality test uses the Shapiro-Wilk test to determine the type of statistical test to be used. Bivariate analysis used a paired t-test to compare mental health

scores before and after an intervention in the same group, as well as an independent t-test to compare the difference in scores between the intervention group and the control group. If the data is not normally distributed, the non-parametric Wilcoxon signed-rank test and the Mann-Whitney U test are used. Multivariate analysis used ANCOVA (Analysis of Covariance) to control for confounding variables such as age, gender, and family socioeconomic background. The effectiveness of the intervention was assessed based on effect size using Cohen's d with the categories of small (0.2), medium (0.5), and large (0.8). This research has received ethical approval from the Health Research Ethics Committee with protocol number 2024/KEP-012 and all respondents have provided informed consent and assent from parents/guardians to participate in the research.

RESULTS

Table 1 presents the baseline mental health condition of participants prior to the intervention. The mean SDQ score of 43.00 indicates that adolescents were experiencing moderate psychosocial difficulties, particularly related to stress, peer relations, and emotional instability. The relatively wide score range (32–56) suggests heterogeneity in psychological

vulnerability, showing that some students were already experiencing considerable emotional distress. These baseline findings justify the need for school-based psychosocial support, as adolescents demonstrated early risk indicators for mental health concerns requiring immediate attention.

Table 2 demonstrates the significant improvements in all measured mental health indicators following the peer group support intervention. Adaptive coping skills increased by 42.4%, indicating that participants became more capable of using constructive problem-solving and emotional regulation strategies. Stress symptoms decreased by 35.8%, reflecting a strong reduction in internal psychological tension. Health maintenance behaviors improved by 43.1%, suggesting greater adherence to self-care practices such as physical activity and sleep hygiene. Additionally, the total SDQ score increase of 19.0% reflects an overall enhancement in psychological functioning. All changes were statistically significant ($p < 0.001$), confirming that the intervention had a clinically meaningful and robust effect on adolescent well-being. The findings indicate that peer group support is an effective method to improve mental health status and daily adaptive behaviors in a school setting.

Table 1. Baseline Mental Health Assessment Before Intervention (N = 84)

Variable	Mean (SD)	Median (IQR)	Min	Max
Mental health total score (SDQ)	43.00 (±6.12)	44.50 (41–47)	32	56

Notes: SDQ = Strengths and Difficulties Questionnaire.
Higher scores indicate more psychosocial difficulties.

Table 2. Effectiveness of Peer Group Support Intervention on Mental Health Indicators (N = 84)

Indicator	Pre-Test Mean (SD)	Post-Test Mean (SD)	% Change	Statistical Test	p-value	Interpretation
Adaptive coping skills	55.2% (±6.3)	78.6% (±5.7)	+42.4%	Paired-test / Z = 4.331	<0.001	Significant improvement
Stress symptoms	72.8% (±7.1)	46.7% (±6.4)	–35.8%	Paired-test / Z = 4.331	<0.001	Significant reduction
Health maintenance behavior	48.3% (±5.9)	69.1% (±6.1)	+43.1%	Paired-test / Z = 4.331	<0.001	Significant improvement
Mental health total score (SDQ)	43.00 (±6.12)	51.17 (±5.82)	+19.0%	Paired-test / Z = 4.331	<0.001	Significant improvement

Notes:

- Positive % change for adaptive coping and health maintenance reflects improvement; negative % change for stress reflects reduction.
- Effect size (Cohen's d) estimated >0.8 = large effect.

DISCUSSION

This study demonstrated that peer group support significantly improved mental health outcomes among junior high school adolescents, including enhancing adaptive coping skills, reducing stress symptoms, and strengthening health maintenance behaviors. These results align with the developmental understanding that adolescents are highly influenced by peer relationships during this transitional stage, which places them at increased risk for emotional disturbances when facing academic pressure, peer conflict, and reduced parental interaction (2). By providing a structured system of social interaction, the intervention enabled students to feel more supported, valued, and understood by peers facing similar experiences.

The notable increase in adaptive coping strategies aligns with the perspective that small group learning encourages the exchange of knowledge, critical thinking, and mutual support (15). This group dynamic fosters more relatable learning that emerges naturally from shared experiences. The findings are consistent with theories of group therapy, where all members play active roles in expressing challenges and learning to manage difficulties (16,17). It also emphasizes that shared emotional experiences create a supportive environment in which individuals can grow through vicarious learning and collective problem-solving. In the present study, adolescents reported feeling more emotionally understood and socially connected, which contributed to improved psychological functioning.

In addition to coping improvements, a substantial reduction in stress symptoms was observed. This finding is in line with international research indicating that peer-based interventions can significantly relieve emotional distress and internalizing symptoms among adolescents (18,19). The intervention facilitated opportunities for emotional ventilation and emotional validation from peers, which may have reduced feelings of isolation that often exacerbate stress. Research by (10) has also shown that strong peer support contributes positively to adolescent psychological well-being, especially in enhancing self-confidence and reducing anxiety.

The improvement in health maintenance behaviors suggests that the program not only affected emotional resilience but also motivated

adolescents to adopt healthier habits. These findings support Pender's Health Promotion Model, which asserts that social support is a central determinant of maintaining healthy behaviors in young populations (20). Similar studies have shown peer encouragement to be effective in improving sleep patterns, dietary habits, and responsible technology use (3). Therefore, the intervention appears to have promoted holistic well-being, both mentally and behaviorally.

This study has practical implications for community health and school-based mental-health promotion. Peer group support offers a prevention-focused and empowerment-driven approach that allows nurses and counselors to extend psychological support beyond clinical settings. The role of school nurses or counselors in facilitating these groups aligns with recommendations for effective community-based mental-health interventions (1). Evidence from other populations, including hemodialysis patients, also shows similar benefits, indicating the scalability and adaptability of peer support programs (21). Integrating peer-led mentorship into school policies may contribute to a more inclusive and emotionally safe educational environment.

Limitation

Several limitations should be considered when interpreting these findings. The study was conducted in one school, which may limit generalizability to broader adolescent populations. The duration of the intervention was relatively short, and while immediate benefits were clearly demonstrated, long-term sustainability of the changes remains unknown. In addition, the use of self-reported measures raises the possibility of response bias. External environmental factors, such as family climate and social media exposure, were also not controlled and may influence mental-health outcomes.

The results, however, provide a strong foundation for future research. Longitudinal studies are recommended to evaluate the persistence of program outcomes over time. Expanding the intervention to multiple schools and diverse regions will help confirm its applicability in broader cultural contexts. Increased involvement of teachers and parents could further strengthen peer support continuity. As digital interaction continues to increase among youth, incorporating online peer support

components is also encouraged, considering recent evidence showing strong effectiveness of digital peer-assisted interventions (13).

CONCLUSION

In conclusion, this study provides strong evidence that peer group support is an effective strategy to improve mental health, coping skills, and health-promoting behavior in adolescents. By fostering emotional connectedness and supportive relationships, this approach empowers adolescents to handle psychosocial challenges more effectively. Schools are encouraged to integrate structured and ongoing peer support programs into mental-health initiatives, with healthcare professionals playing a supportive and supervisory role. Strengthening collaboration between schools, families, and health authorities will be critical for ensuring sustainable implementation and broader community impact.

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Author Contributions

ZNS: Conceptualization, study design, data collection, data analysis, manuscript drafting.
ASR: Methodology development, intervention supervision, data interpretation, manuscript review and editing.
SK: Statistical analysis, validation of findings, critical revision of the manuscript.

All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

Conflict of Interest

The authors declare that there are no conflicts of interest related to the research, authorship, or publication of this article.

REFERENCES

1. World Health Organization. Adolescent Mental Health: Evidence and Policy Guidance. WHO Press; 2021.
2. Ventura A, others. Peer connectedness as a resilience factor in adolescent mental health. *Lancet Child Adolesc Heal*. 2023;7(6):450–60.
3. Patel V, others. Lifestyle interventions and peer support in promoting adolescent health behaviors. *Int J Behav Med*. 2022;29(5):667–76.
4. UNICEF. The State of Adolescent Mental Health Worldwide [Internet]. UNICEF; 2023. Available from: <https://www.unicef.org>
5. Ministry of Health Republic of Indonesia. Basic Health Research (Riskesdas) Report 2018. Ministry of Health RI; 2019.
6. Puspitasari I, others. Prevalence of mental-emotional distress among adolescents in West Java Province: An epidemiological analysis. *BMC Public Health*. 2020;20:1522.
7. Nuraeni S, others. Mental-health literacy among adolescents in West Java: A cross-sectional assessment. *J Public health Res*. 2024;13(2):325–32.
8. Rahmadani A, others. Peer psychosocial support to strengthen adolescent well-being through e-peer intervention. *J Community Empower*. 2022;5(1):39–48.
9. Sidik SM, others. Psychosocial risk factors and early mental health problems in Indonesian adolescents. *Front Psychiatry*. 2023;14:1198765.
10. Hafawati H, others. Peer support and psychological well-being among adolescents. *J Keperawatan*. 2024;18(1):343–51.
11. Syifa A, Nugraha W, Oktaviana SK. Increasing anti-bullying awareness through peer sociotherapy in junior high schools. *J Adolesc Educ Dev*. 2025;7(2):195–205.

12. McLeod T, Patel S, Hoare P. Peer support interventions to improve mental health in adolescents: A review. *J Adolesc Heal*. 2020;66(5):448–56.
13. Nguyen T, Chen P, Zhao X. Digital peer-support models for adolescent mental health: A randomized controlled trial. *JMIR Ment Heal*. 2024;11:e52517.
14. Febriana B, Rochmawati DH. Strengthening adolescent resilience through peer counseling in school settings. *SALAM J Syar-i Sos dan Budaya*. 2023;10(3):929–38.
15. Fauzan MF, Nadhir LA, Kustanti S, Suciani S. Small group discussion learning and improvements in critical thinking. *AKSARA J Ilmu Pendidik*. 2022;8(3):1805–14.
16. Brabender VM, Fallon AE, Smolar AI. *Essentials of Group Therapy*. Wiley; 2004.
17. Corey G. *Theory and Practice of Group Counseling*. 8th ed. Brooks/Cole; 2010.
18. Kumar R, Itumalla R, Perera B, Elabbasy MT, Singh M. Patient Knowledge About Diabetes: Illness Symptoms, Complications and Preventive Personal Lifestyle Factors. *Heal Psychol Res*. 2022;10(3).
19. Meng X, Li Z, Zhou S. Peer-led school-based mental health interventions: A systematic review. *Child Adolesc Psychiatry Ment Health*. 2023;17(1):42.
20. Pender NJ, others. Applications of the Health Promotion Model in child and adolescent populations. *J Pediatr Nurs*. 2019;47:68–75.
21. Prajayanti ED, Sari IM. Peer group support reduces anxiety among hemodialysis patients. *Gaster*. 2020;18(1):76–82.