Enhancing Self-Confidence in Early Adolescents from Divorced Families: A Nature-Based Group Guidance Intervention via Eco-Art

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Abstract

Background: Parental divorce and family disruption frequently precipitate severe internalizing difficulties and diminished self-confidence among early adolescents, presenting a critical challenge for school-based psychological interventions.

Objective: This study evaluated the effectiveness of integrating eco-art media into structured group guidance to enhance self-confidence among early adolescents originating from parental divorce backgrounds.

Methods: A quantitative pre-experimental design utilizing a One-Group Pretest-Posttest framework was conducted at SMP Negeri 52 Bekasi, Indonesia. Eleven early adolescents meeting specific vulnerability criteria (moderate-to-low baseline self-confidence, parental divorce background) were selected through purposive sampling. The intervention spanned six 90-minute sessions incorporating natural media (rock painting and organic collages). Data were gathered using a validated 45-item self-confidence scale (Cronbach's $\alpha = 0.918$) and analyzed using the Shapiro-Wilk test and Paired Sample t-Test.

Results: Shapiro-Wilk tests confirmed normal data distribution ($p > 0.05$). Following the 6-session intervention, mean self-confidence scores increased significantly from 100.18 (SD = 9.87) at pre-test to 131.82 (SD = 9.12) at post-test. The Paired Sample t-Test demonstrated a highly significant therapeutic gain ($t(10) = -25.408$, $p < 0.001$, 95% CI [-34.41, -28.86]), with 100% of participants displaying measurable individual score improvements.

Conclusion: Group guidance leveraging eco-art media serves as a non-threatening, sensorially grounding, and highly effective expressive intervention for restoring self-worth in adolescents facing family disruption. Future studies should employ randomized controlled trials (RCTs) to confirm causal efficacy.

Keywords: Group guidance, Eco-art therapy, Self-confidence, Early adolescence, Parental divorce, School counseling.

2. Introduction

The family serves as the primary microsystem shaping an individual's psychological trajectory, self-concept, and socio-emotional functioning. However, structural disruptions within the family system—most notably parental divorce—frequently disrupt this formative foundation. Globally, adolescent mental health has emerged as a paramount public health priority, with the World Health Organization (2021) reporting that 10–20% of children and adolescents worldwide experience mental health conditions [cite: 1]. Societal shifts in Indonesia mirror these global trends; official statistical reports indicate a dramatic surge in divorce rates, particularly in West Java and urban centers such as Bekasi City [cite: 1]. This epidemiological pattern underscores a growing demographic of youth navigating family breakdown, exposing them to heightened risks of emotional turbulence, internalizing problems, loss of agency, and profound decrements in self-confidence [cite: 1].

Early adolescence (approximately ages 12–15) represents a critical developmental juncture characterized by identity formation, self-evaluation, and heightened sensitivity to socio-relational cues (Erikson, 1968) [cite: 1]. According to developmental literature, early adolescents experiencing parental marital dissolution frequently exhibit persistent self-doubt, affective distress, pessimistic future orientation, and diminished self-worth (Muttaqin & Sulistyo, 2019; Lan & Mastrotheodoros, 2024) [cite: 1]. Self-confidence—defined as an individual's realistic conviction in their capabilities, emotional independence, objective self-assessment, and optimism (Lauster, 1992; Ghufron & Risnawita, 2010)—is a crucial prerequisite for academic achievement, interpersonal competence, and subjective well-being [cite: 1]. Preliminary diagnostic surveys conducted at SMP Negeri 52 Bekasi reinforced these theoretical premises, revealing that youth from broken homes systematically exhibited profound hesitance, social withdrawal, and pervasive self-doubt [cite: 1].

Although traditional school-based interventions employ group guidance to foster social skills and cognitive restructuring through peer dynamics (Hartanti, 2022; Ilhamuddin et al., 2024), purely verbal and directive counseling models often fail with vulnerable adolescents [cite: 1]. Traumatized or emotionally guarded youth frequently struggle to articulate complex distress verbally, triggering defensive mechanisms or fear of peer judgment. To address this methodological challenge, expressive art modalities have emerged as vital therapeutic conduits [cite: 1]. Specifically, eco-art—an integrative approach utilizing natural materials (e.g., stones, leaves, twigs, soil)—offers tactile, sensory, and non-verbal pathways for self-expression, emotional grounding, and stress reduction (Kulsum et al., 2022; Pacek et al., 2025) [cite: 1].

Despite growing interest in expressive therapies, a significant empirical gap remains in current literature. Previous scholarly works have largely evaluated group guidance and nature-based art therapies as isolated paradigms [cite: 1]. Empirical inquiries examining the synergistic integration of eco-art media within structured group guidance—specifically targeting early

adolescents suffering from parental divorce within Southeast Asian educational contexts—remain exceptionally sparse [cite: 1]. To address this gap, this study evaluated a structured eco-art group guidance framework designed to enhance self-confidence among early adolescents from divorced families. The study addressed two central research questions: (1) Does structured eco-art group guidance significantly increase self-confidence scores among early adolescents from divorced families? and (2) How do natural expressive mediums facilitate cognitive-emotional shifts during the guidance process?

3. Methods

3.1 Research Design and Ethical Approval

This study employed a quantitative pre-experimental design utilizing a One-Group Pretest-Posttest framework (Sugiyono, 2017) [cite: 1]. This design measures baseline psychological parameters prior to an intervention (O1) and evaluates subsequent shifts post-treatment (O2), establishing preliminary intervention efficacy [cite: 1]. The study was conducted at SMP Negeri 52 Bekasi during the odd semester of the 2026/2027 academic year following official institutional authorization and informed parental consent.

3.2 Participant Selection and Sampling Strategy

The target population comprised 120 seventh-grade students across three general classrooms, among whom 17 students were identified as coming from broken home environments resulting from parental divorce [cite: 1]. A purposive sampling strategy (Asrulla et al., 2023) was implemented based on four strict inclusion criteria: (a) confirmed background of parental divorce, (b) non-intact household living arrangement, (c) baseline self-confidence falling into the low-to-moderate categorization, and (d) willingness to participate across six complete intervention sessions [cite: 1]. Eleven students (N = 11) fulfilled all rigorous clinical criteria and constituted the final experimental cohort [cite: 1].

3.3 Instrumentation and Psychometric Validation

Psychometric evaluation was performed using a customized Self-Confidence Questionnaire developed from Lauster's theoretical construct (1992), spanning five core dimensions: self-efficacy, optimism, objectivity, emotional independence, and realistic goal-setting [cite: 1]. The instrument utilized a 4-point Likert scale (1 = Strongly Disagree to 4 = Strongly Agree).

Psychometric validation was conducted on an independent trial sample of 36 non-participant students [cite: 1]. Item-total correlation analysis via Pearson's Product-Moment algorithm established that out of 60 initial items, 45 items exhibited calculated r-values exceeding the critical table threshold ($r_{count} > r_{table} = 0.329$, $\alpha = 0.05$), confirming construct validity [cite: 1]. The remaining 15 invalid items were eliminated. The final 45-item scale demonstrated high internal consistency, yielding a Cronbach's Alpha coefficient of 0.918 [cite: 1].

3.4 Intervention Protocol: Eco-Art Group Guidance

The intervention consisted of six 90-minute group guidance sessions conducted twice weekly over a two-week period. The therapeutic framework integrated classic group development stages (Prayitno, 2017) with structured expressive eco-art activities, primarily rock painting (Novita Rizki et al., 2020) and organic leaf/botanical collages (Kulsum et al., 2022) [cite: 1]:

- Session 1 (Rapport and Orientation): Group formation, establishing psychological safety, establishing ground rules, and introducing natural eco-art mediums [cite: 1].
- Session 2 (Affective Identification - Rock Painting): Expressing non-verbal internal emotions onto river stones, encouraging emotional catharsis and objective externalization [cite: 1].
- Session 3 (Self-Acceptance - Organic Collage): Assembling fallen flora to reflect personal life narratives, emphasizing acceptance of structural family changes [cite: 1].
- Session 4 (Resource Identification - Rock Painting): Depicting personal strengths and coping mechanisms on rocks to solidify internal loci of control [cite: 1].
- Session 5 (Future Orientation - Organic Collage): Creating symbolic representations of personal aspirations, developing realistic goal-setting skills [cite: 1].
- Session 6 (Synthesis and Commitment): Group reflection, consolidation of self-worth gains, and formalizing personal growth commitments [cite: 1].

3.5 Statistical Data Analysis

Statistical processing was executed using IBM SPSS Statistics version 25.0 [cite: 1]. Given the sample size ($N = 11 < 50$), normality of pretest and posttest distributions was verified using the Shapiro-Wilk test [cite: 1]. After satisfying parametric assumptions, primary hypothesis testing was conducted using the Paired Sample t-Test at a significance threshold of $\alpha = 0.05$ [cite: 1]. Effect sizes and individual score shifts were systematically analyzed.

4. Results

4.1 Normality Testing

Prior to hypothesis testing, distributional normality was evaluated. As detailed in Table 1, the Shapiro-Wilk test yielded significance values of $p = 0.287$ for the pretest distribution and $p = 0.152$ for the posttest distribution [cite: 1]. Because both values exceeded the standard significance threshold ($p > 0.05$), the data met the assumption of normality required for parametric inferential statistics [cite: 1].

Variable	Shapiro-Wilk Statistic	df	Significance (p-value)
Pretest Self-Confidence	0.916	11	0.287

Posttest Self-Confidence	0.893	11	0.152

4.2 Primary Hypothesis Testing and Overall Efficacy

The descriptive metrics indicated a substantial post-intervention increase in self-confidence [cite: 1]. The overall mean score rose from a pretest baseline of 100.18 (SD = 9.87) to a posttest average of 131.82 (SD = 9.12), representing an absolute mean gain of 31.64 points [cite: 1].

The Paired Sample t-Test demonstrated a statistically significant therapeutic effect: $t(10) = -25.408$, $p = 0.000$ ($p < 0.001$) [cite: 1]. The 95% confidence interval of the difference ranged from -34.41 to -28.86, confirming that the observed psychological improvement was robust and independent of random sampling variation [cite: 1]. Consequently, the null hypothesis (H0) was rejected, supporting the alternative hypothesis (Ha) [cite: 1].

Mean Diff.	Std. Deviation	Std. Error Mean	t-statistic	df	Sig. (2-tailed)
-31.636	4.130	1.245	-25.408	10	0.000

4.3 Distributional Categorization and Individual Trajectories

A categorical analysis of self-confidence levels highlighted a complete upward shift across the cohort [cite: 1]. At pretest, 81.8% of participants (n = 9) exhibited moderate self-confidence, while 18.2% (n = 2) met the criteria for low self-confidence [cite: 1]. Post-intervention, no participants remained in the low category; 45.5% (n = 5) scored in the moderate category, and 54.5% (n = 6) achieved high self-confidence [cite: 1].

No.	Participant	Pretest Score	Pretest Category	Posttest Score	Posttest Category	Score Gain (Δ)
1	K	109	Moderate	139	High	+30
2	E	83	Low	117	Moderate	+34
3	R	97	Moderate	119	Moderate	+22
4	KA	111	Moderate	145	High	+34
5	Z	94	Moderate	129	Moderate	+35
6	N	102	Moderate	140	High	+38
7	S	93	Moderate	125	Moderate	+32

8	A	106	Moderate	136	High	+30
9	F	111	Moderate	140	High	+29
10	D	108	Moderate	139	High	+31
11	Fi	88	Low	121	Moderate	+33
Mean	**--**	**100.18**	**Moderate**	**131.82**	**High**	**+31.64**

5. Discussion

5.1 Interpretation of Findings in Light of Existing Literature

The empirical results confirm that structured group guidance integrating eco-art media substantially elevates self-confidence among early adolescents navigating the psychological sequelae of parental divorce [cite: 1]. These findings align with core premises in group counseling literature, which establish that peer guidance formats provide a supportive micro-environment where vulnerable youth can experience mutual acceptance, validate shared grief, and rebuild self-efficacy (Prayitno, 2017; Hartanti, 2022; Ilhamuddin et al., 2024) [cite: 1]. Furthermore, these results corroborate earlier observations by Helma and Jarkawi (2023) and Fadilah (2019), who demonstrated that supportive peer atmospheres reduce social anxiety and bolster internal self-worth among youth from non-intact families [cite: 1].

5.2 Action Mechanisms of Eco-Art as an Expressive Medium

The dramatic psychological improvements observed in this study stem from the unique therapeutic properties of eco-art media [cite: 1]. Unlike traditional verbal counseling, which can induce defensiveness or cognitive overload in traumatized adolescents, tactile engagement with natural elements (e.g., river rocks, textured leaves, bark) operates through three primary therapeutic mechanisms:

1. Non-Verbal Projection and Emotional Catharsis: Natural mediums serve as psychological containers [cite: 1]. Painting on stones allowed participants to project repressed grief, anxiety, and self-doubt non-verbally before attempting verbal processing [cite: 1]. This lowered psychological resistance and facilitated emotional release [cite: 1].

2. Sensory Grounding and Stress Reduction: Natural elements possess unique tactile and organic textures that foster sensory grounding [cite: 1]. As noted by Pacek et al. (2025) and Kulsum et al. (2022), interacting with natural matter reduces physiological arousal, stabilizes affect, and fosters emotional self-regulation [cite: 1].

3. Mastery, Agency, and Self-Worth Reconstruction: Transforming discarded natural materials into meaningful artistic collages provided tangible experiences of mastery [cite: 1]. Completing

these creative products directly countered feelings of helplessness, building self-efficacy, optimism, and realistic self-appraisal (Lauster, 1992; Ghufron & Risnawita, 2010) [cite: 1].

> **Therapeutic Mechanism Summary**
> *The integration of eco-art transforms traditional counseling by providing a low-pressure, tactile bridge between unconscious emotional distress and conscious cognitive restructuring. Natural media act as external psychological containers, enabling vulnerable adolescents to process trauma, rebuild self-efficacy, and establish peer connections safely.*

5.3 Theoretical and Practical Implications

From a theoretical perspective, this study advances expressive arts literature by demonstrating the feasibility and efficacy of combining eco-art therapy with structured group guidance [cite: 1]. Practically, this research offers a cost-effective, culturally adaptable intervention model for school counselors in resource-constrained educational settings [cite: 1]. Using accessible natural materials removes financial barriers, offering a viable framework for school-based preventive mental health programs.

5.4 Methodological Limitations and Future Directions

Several methodological limitations should be considered when interpreting these findings [cite: 1]:

- Single-Group Design: The pre-experimental One-Group Pretest-Posttest design lacked an active control group, limiting definitive causal assertions and leaving room for unmeasured confounding variables [cite: 1].
- Sample Size and Generalizability: The sample size (N = 11) was restricted to a single urban junior high school, limiting immediate generalizability across diverse rural or socio-economic populations [cite: 1].
- Self-Report Measures: Data collection relied exclusively on self-report questionnaires, which are susceptible to social desirability bias [cite: 1].

Future research should prioritize randomized controlled trials (RCTs) featuring active control arms, larger multi-center cohorts, longitudinal follow-ups to assess long-term effect retention, and multi-informant assessment batteries (integrating teacher and guardian evaluations).

6. Conclusion

This study confirms that group guidance leveraging eco-art media significantly increases self-confidence among early adolescents from divorced families [cite: 1]. Mean self-confidence scores improved significantly from 100.18 to 131.82 ($p < 0.001$), moving participants from low-to-moderate baselines into moderate-to-high categories [cite: 1]. The integration of organic, tactile art mediums provides a non-threatening, sensorially grounding, and empowering platform for emotional expression and cognitive restructuring [cite: 1]. School counselors are

encouraged to adopt eco-art group guidance as an accessible, non-stigmatizing intervention to support vulnerable adolescents navigating family disruption [cite: 1].

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