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Evaluation of Basic Basketball Passing Skills in Extracurricular Students at Makassar State Senior High School 4

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Abstract. This study aims to evaluate the basic basketball passing skills (chest pass, bounce pass, overhead pass) of extracurricular students of SMA Negeri 4 Makassar. The research method uses a descriptive quantitative design with motor skills measurement through standard field tests. The sample consisted of 40 extracurricular basketball students (aged 16-18 years) who actively practiced for at least 4 months. The instruments included chest pass tests (accuracy 5 meters), bounce pass (control bounce 4 meters), and overhead pass (distance 7 meters) with Cronbach's reliability $\alpha = 0.89$. Data were collected in 3 test sessions with 5-day intervals to measure consistency, analyzed using descriptive statistics, ICC reliability test, and Pearson correlation. The results showed that chest pass skills were very good (mean = 84.2%; SD = 7.8), bounce pass skills were good (mean = 78.5%; SD = 9.2), and overhead pass skills were fairly good (mean = 72.1%; SD = 10.4), with an overall average of 78.3% in the good category. The main influencing factors were training frequency ($r=0.67$), hand-eye coordination ($r=0.71$), and competition experience ($r=0.59$). Male students significantly outperformed all techniques ($p<0.05$). The study concluded that the passing skills of extracurricular students at SMA N 4 Makassar were at a good level, but overhead passes required intensive training to reach competitive standards. These findings serve as a baseline for developing a specific passing training program at the high school level in South Sulawesi.

Keywords: basketball passing, chest pass, bounce pass, overhead pass, high school extracurricular activities

1 Introduction

Basketball is a popular sport in Indonesia with high participation at the high school level, where passing is a crucial fundamental technique for ball control and effective offense. Passing techniques, including the chest pass (accurate, close-range chest pass), bounce pass (bounce pass over defenders), and overhead pass (long-range overhead pass), form the foundation of team play (Wissel, 2019). In high school, basketball extracurricular activities play a crucial role

in the development of young athletes, yet evaluation of passing skills is often overlooked compared to shooting or dribbling (Nurkholis, 2025).

The urgency of evaluating passing skills in extracurricular students is motivated by the need for baseline data for training optimization. Passing contributes to 40-50% of turnovers in junior matches, and poor possession hinders team performance (Eliza, 2020). State Senior High School 4 Makassar, as the center of basketball development in South Sulawesi, requires specific evaluation to support regional achievement. This research fills the gap with a comprehensive focus on three key passing techniques.

Theoretically, passing mastery is based on Motor Control Theory, which emphasizes hand-eye coordination, sensory feedback, and practice variability to achieve autonomy (Schmidt & Lee, 2020). The chest pass requires precise force application, optimal bounce pass timing (2/3 of the distance), and strong overhead pass shoulder rotation (Ostrowski et al., 2017). Specificity of Practice requires game-like training for skill transfer (Ericsson & Pool, 2016).

Previous research has shown variations in high school students' passing mastery. Nurkholis' (2025) study of Babussalam High School extracurricular activities found chest passes at 76% and bounce passes at 72%, with confidence being a significant factor (r=0.62). Hendryatma's (2025) research identified chest, bounce, and overhead passes as standardized test SOPs with high reliability. Eliza (2020) reported an average passing rate of 65% among Padang Sidempuan students, in the moderate category. Muchafi's (2024) analysis at SMA N 10 Makassar showed low chest pass rates due to a lack of specific drills.

An international study by Susanto et al. (2023) developed a BCS for passing assessment, showing a correlation between focus (r=0.68) and accuracy. In Indonesia, Damayanti (2025) found STAD to be effective in increasing passing by 25%, but baseline evaluations are scarce. Research gaps include: (1) a lack of comprehensive studies of three simultaneous passing techniques in high school extracurricular activities; (2) a lack of data on Makassar as a basketball hub in eastern Indonesia; (3) an absence of demographic factor analysis and specific training; (4) limited standardized instruments for the local context.

The research aims to: (1) evaluate the rates of chest passes, bounce passes, and overhead passes; (2) identify influencing factors; (3) analyze gender/age differences; and (4) recommend data-based training programs.

2 Method

Research Design

Descriptive quantitative design with repeated skill measurements (test-retest reliability). Measurements were conducted in three sessions with 5-day intervals to evaluate consistency (Thomas et al., 2020).

Subjects/Participants

40 extracurricular basketball students at SMA N 4 Makassar (aged 16-18 years, M=17.1; SD=0.8), 28 males (70%), 12 females (30%), training 3-5 times per week (M=4.2; SD=0.6), and 6-24 months of experience (M=12.5; SD=4.3). Purposive sampling: active competition for at least 3 months, injury-free.

Research Instruments

Chest Pass Test: Accuracy of 10 passes to a 1m target, 5m away (score = hits/10 x 100%).

Bounce Pass Test: Controlled bounces, 10x, 4m away (deviation <50cm = passes).

Overhead Pass Test: Accuracy of 8 passes, 7 m, to the target zone.

Expert content validity (CVR=0.91), reliability α=0.89, ICC=0.88 ($p<0.01$). Questionnaire factors (practice frequency, coordination, experience; α=0.85).

Data Collection Procedure

Preparation: Informed consent, medical screening, field familiarization (standard FIBA synthetic).

Session 1 (Day 1): Full morning test (8:00-10:00 AM WITA).

Session 2 (Day 6): Retest reliability.

Session 3 (Day 11): Final data + questionnaire. Conditions: temperature 28-32°C, anti-fatigue rotation.

Data Analysis Techniques

SPSS 26: descriptive (M, SD, categories: excellent ≥85%, good 70-84.9%, fair 55-69.9%, poor <55%); ICC reliability; gender t-test; ANOVA for age; Pearson correlation factor (α=0.05).

3 Result

Sample Characteristics

Tabel 1. Demographic Characteristics (N=40)

Variable	**f**	**%**	**M ± SD**
Male	28	70	-
Female	12	30	-
Age (years)	-	-	17,1 ± 0,8
Exercise (x/week)	-	-	4,2 ± 0,6
Experience (months)	-	-	12,5 ± 4,3

Passing Skill Score

Tabel 2. Passing Test Results (N=40)

Technique	Session 1	Session 2	Session 3 (Final)	Categori
Chest Pass (%)	82,1±8,3	83,5±7,9	84,2±7,8	Very Good
Bounce Pass (%)	76,4±9,8	77,8±9,4	78,5±9,2	Good
Overhead Pass (%)	70,3±11,0	71,4±10,6	72,1±10,4	Pretty good
Average	76,3±9,7	77,6±9,3	78,3±9,1	Good

ICC: chest=0,91, bounce=0,88, overhead=0,86 ($p<0,001$).

Tabel 3. Category Distribution

Categori	Chest	Bounce	Overhead
Very Good (≥85%)	18 (45%)	12 (30%)	8 (20%)
Good (70-84,9%)	20 (50%)	22 (55%)	20 (50%)
Enough (55-69,9%)	2 (5%)	6 (15%)	12 (30%)
Not enough (<55%)	0	0	0

Group Differences and Correlations

Table 4. Gender Comparison

Group	Chest	Bounce	Overhead	Total
Male (28)	86,4±6,9	81,2±8,5	75,3±9,7	81,0±8,4

Group	Chest	Bounce	Overhead	Total
Female (12)	79,5±8,2	72,8±9,1	64,8±9,8	72,4±9,0
t (p)	3,21 (0,003)*	2,98 (0,005)*	3,45 (0,001)*	3,12 (0,003)*

Table 5. Factor Correlation

Factor	Chest (r)	Bounce (r)	Overhead (r)	Total (r)
Exercise	0,67**	0,64**	0,69**	0,70**
Coordination	0,71**	0,68**	0,73**	0,75**
Experience	0,59**	0,62**	0,56**	0,62**

**p<0,01.

4 Discussion

Average passing mastery was 78.3%, in the good category, surpassing Eliza's (2020) 65%, but similar to Nurkholis' (2025) 74%. Chest passes were superior (84.2%) due to close, repetitive training, consistent with the associative stage of motor learning (Schmidt & Lee, 2020). Bounce passes were good (78.5%), but bounce timing challenged defenders with minimal simulation. Overhead passes were weakest (72.1%) due to low shoulder strength in adolescents, consistent with Wissel (2019).

Significant gender differences ($p<0.01$; $d=0.8$-1.0 medium-large) align with the physiology of upper body strength (Haugen et al., 2019). Training correlation ($r=0.70$) supports deliberate practice (Ericsson & Pool, 2016). Dominant eye-hand coordination ($r=0.75$) was crucial for visual feedback on passing.

Contributions: Makassar baseline, validated instrument, high school-specific factors. Implications: intensive overhead drill, gender-differentiation, coordination focus. Limitations: small sample size, cross-sectional, no game context.

5 Conclusion

The passing skills of extracurricular students at SMA N 4 Makassar are good (78.3%), chest is very good, bounce is good, and overhead is fair. Boys are superior, with training/coordination being the primary determinant.

Recommendations: (1) 8-week overhead intervention; (2) comparison with South Sulawesi high schools; (3) 2-year longitudinal program; (4) game-based assessment; (5) tech-assisted (video analysis); (6) gender program; (7) PTK (Teaching and Development) for extracurricular coaches.

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