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CHANGES IN FUTSAL PASSING ACCURACY AFTER A RONDO TRAINING PROGRAM

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Abstract

This study quantified changes in target-passing accuracy after rondo training among junior-high-school futsal extracurricular participants. A one-group pretest–posttest design included all 18 participants at SMP IT Al-Asy'ari Reban Tebu. Players completed 10 target passes at each assessment—five with each foot—and received one point for every successful attempt. The manuscript reports 16 rondo sessions. Paired scores were analyzed using a paired-samples t test. Mean accuracy increased from 3.83 ± 1.54 to 6.39 ± 1.33 successful passes. The mean increase was 2.56 points (95% CI 2.10–3.01), $t(17)=11.762$, $p<.001$, with a large paired effect ($d_n=2.77$). Target-passing scores improved during rondo training. Because the study lacked a control group and did not fully document the intervention or test reliability, the change cannot be attributed exclusively to rondo practice.

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A - Conception and design of the study; B - Acquisition of data; C - Analysis and interpretation of data; D - Manuscript preparation; E - Obtaining funding

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INTRODUCTION

Passing supports possession, progression, and chance creation in futsal, where a small playing area and frequent pressure reduce the time available for ball control and decisions. An accurate pass depends on foot–ball contact, body orientation, perception of teammates and opponents, and selection of appropriate direction and force. Training should therefore combine technical repetition with representative information from play.

Rondo is a possession activity in which attackers circulate the ball around one or more defenders, usually in a constrained space. Manipulating area, player numbers, touches, and defensive pressure can increase passing frequency and encourage scanning, support angles, communication, and rapid decisions. Yet the



representativeness of a rondo depends on its design; a static numerical-overload task does not automatically reproduce all tactical demands of a futsal match.

Indonesian studies generally report improved passing after rondo practice. Fitriani (2022) found benefits from rondo and small-sided-game training, Nugraha et al. (2024) reported higher football passing accuracy, and Nur Arsaaha and Amiq (2024) found improvement after 16 El Rondo sessions. Comparative studies indicate that passing drills, box passes, or small-sided games may sometimes produce larger gains, suggesting that rondo is one option rather than a universally superior method (Al Fian et al., 2024; Khanif et al., 2025; Prasetyo & Abdulaziz, 2025).

Passing accuracy among futsal extracurricular participants at SMP IT Al-Asy'ari Reban Tebu was considered insufficient during preliminary observation. This study therefore quantified change in a 10-attempt target test after a rondo program. We hypothesized that posttest scores would exceed pretest scores, while recognizing that an uncontrolled design cannot isolate the training effect.

METHOD

Design, Setting, and Participants

A one-group pretest–posttest study was conducted at SMP IT Al-Asy'ari Reban Tebu from May to July 2026. All 18 futsal extracurricular participants were included by total sampling. The source manuscript does not report age, sex, playing experience, position, eligibility criteria, attendance, injury status, consent, or ethics approval. These characteristics should be supplied before submission.

Rondo Training

The results section states that participants completed 16 rondo sessions. The activity was intended to create frequent passing, control, support, and decision-making under defensive pressure. However, the source record does not specify weekly frequency, session duration, field size, attacker-to-defender ratio, number of touches, bout and recovery duration, progression, coaching feedback, or implementation fidelity. These details must be recovered from training plans rather than inferred.

Passing-Accuracy Test

At pretest and posttest, each participant directed 10 passes toward a target: five using the right foot and five using the left. Each successful target hit scored one point and an unsuccessful attempt scored zero, producing a bounded score from 0 to 10. The manuscript does not report target dimensions, passing distance, ball feed, order of feet, rest, number of practice attempts, surface, assessor blinding, content validity, or test–retest reliability. The score measures isolated target accuracy rather than passing effectiveness during play.

Statistical Analysis

Means, standard deviations, and ranges summarized scores. A paired-samples t test evaluated change at $\alpha=.05$. Although Shapiro–Wilk tests were reported



separately for pretest and posttest, the relevant paired-test assumption concerns within-participant differences. The standard deviation of change, 95% CI, and $d_n = t/\sqrt{n}$ were reconstructed from the reported results (Lakens, 2013). Given the bounded integer outcome and small sample, a participant-level plot and Wilcoxon sensitivity analysis would strengthen the report, but raw data were unavailable.

RESULTS

All 18 participants contributed both measurements. Mean accuracy increased by 2.56 successful passes, from 3.83 to 6.39 out of 10. The minimum increased from one to four and the maximum from seven to nine (Table 1). The commonly reported 66.67% increase is relative to the low baseline mean and should not be confused with a 66.67-percentage-point increase on the full scale; the absolute gain was 25.56 percentage points of the 10-attempt test.

Table 1.
Target-passing accuracy

Measurement	n	Mean	SD	Minimum	Maximum	Success rate
Pretest	18	3.83	1.54	1	7	38.33%
Posttest	18	6.39	1.33	4	9	63.89%

The reported Shapiro–Wilk tests were $W=.958$, $p=.562$ for pretest and $W=.950$, $p=.421$ for posttest. These results do not establish normality of the paired differences (Table 2).

Table 2.
Reported Shapiro–Wilk tests

Measurement	W	df	p
Pretest	.958	18	.562
Posttest	.950	18	.421

The paired comparison showed a significant increase, $t(17)=11.762$, $p<.001$. The mean increase was 2.56 points (95% CI 2.10–3.01); the reconstructed SD of change was 0.92 and d_n was 2.77 (Table 3). The magnitude should be interpreted with caution because repeated use of the identical test and a bounded score can amplify apparent gains.

Table 3.

Paired comparison of passing-accuracy scores

Contrast	Mean increase	95% CI	SD change	t (df)	p	d _n
Posttest–pretest	2.56	2.10–3.01	0.92	11.762 (17)	<.001	2.77

DISCUSSION

Target-passing accuracy was higher after the 16-session rondo program. Participants completed, on average, roughly two and a half more successful attempts out of 10. This is a substantial within-group change, and the increase in the minimum score suggests improvement was not limited to the strongest players.

The finding is consistent with previous studies. Fitrian (2022) reported that both rondo and small-sided games improved futsal passing accuracy. Nugraha et al. (2024), Wali et al. (2024), Said (2024), and Nur Arsaaha and Amiq (2024) also reported favorable changes after El Rondo practice in football or futsal. More recent school and youth studies similarly describe improved passing after structured rondo programs (Ramadon et al., 2025; Selan & Wali, 2026).

A plausible explanation is the high frequency of purposeful passes under spatial and temporal constraints. Rondo can encourage players to orient before receiving, select an available teammate, regulate pass pace, and reposition after releasing the ball. Repetition may refine contact consistency, while defenders create a reason to scan and decide quickly. However, the present test involved an unopposed fixed target; it cannot show whether perception, communication, or match decision-making improved.

Rondo should not be treated as inherently superior to other methods. Al Fian et al. (2024) reported larger gains with small-sided games, Khanif et al. (2025) favored drill passing, and Prasetyo and Abdulaziz (2025) found box-pass practice more effective than El Rondo. These comparisons indicate that outcomes depend on player level, task constraints, training dose, and assessment. Coaches can combine rondo for perception and circulation with explicit technical feedback and match-representative small-sided play.

The effect size was very large, but the design provides several alternative explanations. There was no control group, the same test was repeated, and the intervention and measurement reliability were incompletely documented. Scores were bounded integers from 0 to 10, the posttest mean approached the upper portion of the scale, and assessors may have known the test occasion. Ordinary futsal practice, motivation, and test familiarity could have contributed.

Future studies should use an active comparison group, prespecify rondo constraints and load, record attendance and fidelity, and validate the target-passing test. Participant-level change plots and nonparametric sensitivity analyses are appropriate for small bounded outcomes. Transfer should be assessed through passing success, decision quality, turnovers, and ball circulation during standardized small-sided games or matches.

CONCLUSION

Passing-accuracy scores increased from 3.83 to 6.39 successful attempts out of 10 during a 16-session rondo program. The mean increase was 2.56 points (95% CI 2.10–3.01), $t(17)=11.762$, $p<.001$, $d_n=2.77$. Rondo is a promising training option for school futsal, but the uncontrolled design and incomplete protocol prevent a definitive causal conclusion or claims of superiority over other passing methods.

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