

The Response to Intervention of English Language Learners At- Risk for Reading Problems

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What is RTI?

- Response to intervention (RTI) is the degree to which a student who has been identified as at-risk for academic or behavior problems by screening measures has benefited from intervention designed to reduce risk.
- Determining RTI requires:
 - Assessing students to determine risk
 - Providing intervention
 - On-going progress monitoring to ascertain response

Background

- The appropriate application of RTI for identifying students from culturally and linguistically diverse backgrounds as struggling readers is not yet clearly evident.
- Comprehensive reading interventions seem to offer some advantage to EL learners in fundamental skills such as word attack and fluency (Denton et al., 2004; Gunn et al., 2000).
- More research is needed to examine the use of RTI to identify EL learners with reading difficulties.

Purpose of This Study

- Examine the RTI of EL learners identified as at-risk for reading problems in the fall of first grade who received an intensive and systematic intervention from October to May of first grade
- Determine the number of students who responded to the intervention at the end first grade but were at-risk at the end of second grade
- Determine the number of students who did not respond to the intervention at the end first grade and continued to be at-risk at the end of second grade

Research Sample

- **Schools**

- 3 Houston (1 Transitional, 2 English Immersion)
- 4 Austin (4 Transitional)
- 4 Brownsville (3 Transitional, 1 English)

- **Intervention Tutors - All bilingual/biliterate**

- 2 Houston (1 Spanish/English, 1 English only)
- 3 Brownsville (2 English only, 1 Spanish only)
- 2 Austin (2 Spanish only)

- **Students**

- Houston (6 Spanish, 26 English)
- Brownsville (28 Transitional, 24 English)
- Austin (33 Transitional, 0 English)

Identifying Students as At-Risk at the Beginning of First Grade

- Students were identified as at-risk for a reading difficulty and randomly assigned to the treatment or control group if:
 - Scores were below the 25th %ile on first grade LWID
AND
 - Unable to read 1 or more words on experimental list
- 361 students screened in the Spanish intervention schools—
20% met criteria
- 216 students screened in the English intervention schools—
26% met criteria

Research Design

	Supplemental Intervention	Classroom Instruction Only
English	24 Students	24 Students
Spanish	35 Students	34 Students

Intervention instruction was matched to the language of classroom Instruction.

The Interventions

- Primary focus on reading
- Parallel in Spanish and English
- English version previously validated as effective
- 50 minutes per day October-May
- 1:4 Teacher to Student ratio
- Provided in addition to normal language arts instruction

Proactive/Lectura Proáctica

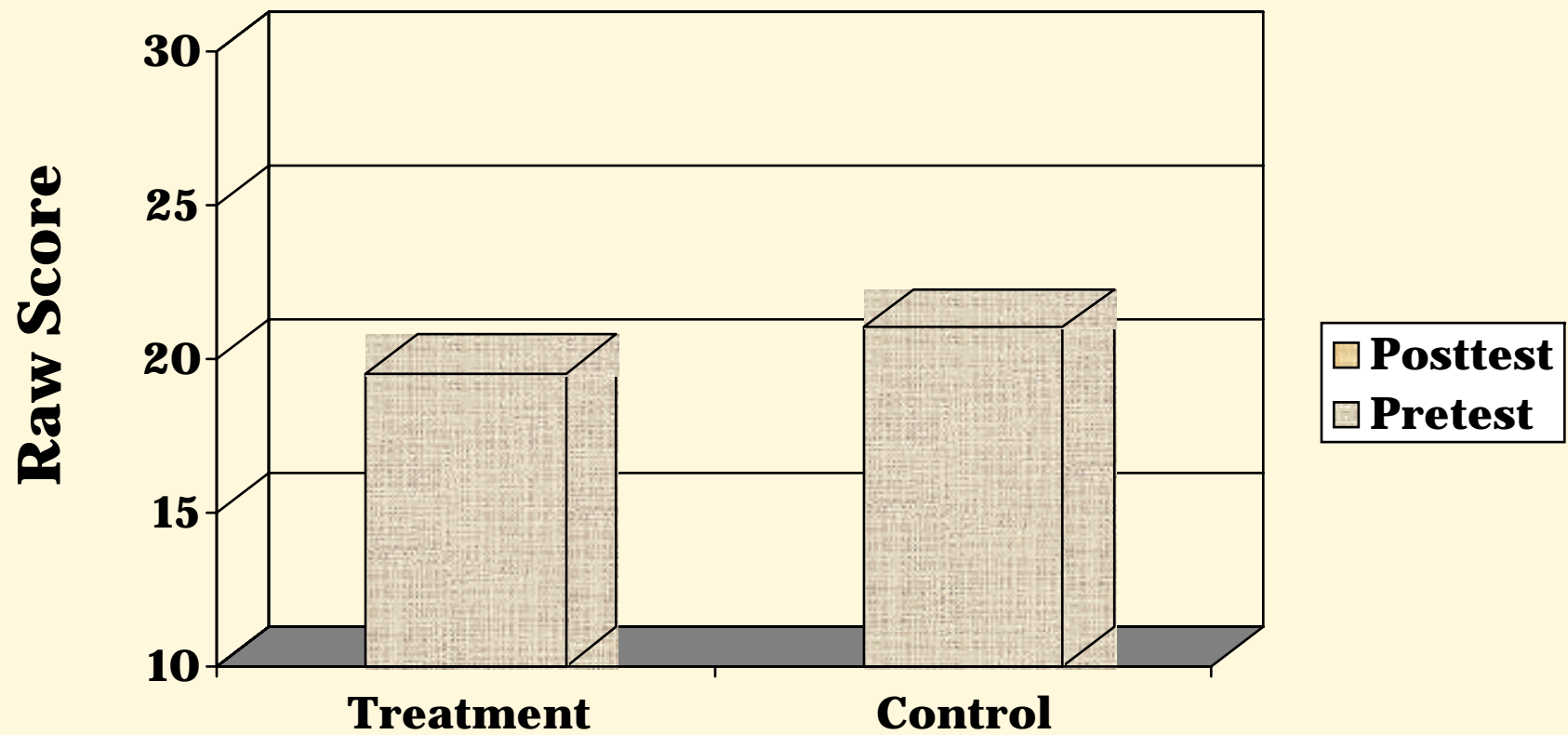
- Explicit instruction in synthetic phonics, with emphasis on fluency
- Integrate decoding, fluency, and comprehension strategies
- 100% decodable text
- Carefully constructed scope and sequence designed to prevent possible confusions
- Every activity taught to 100% mastery every day

Results for Spanish Intervention

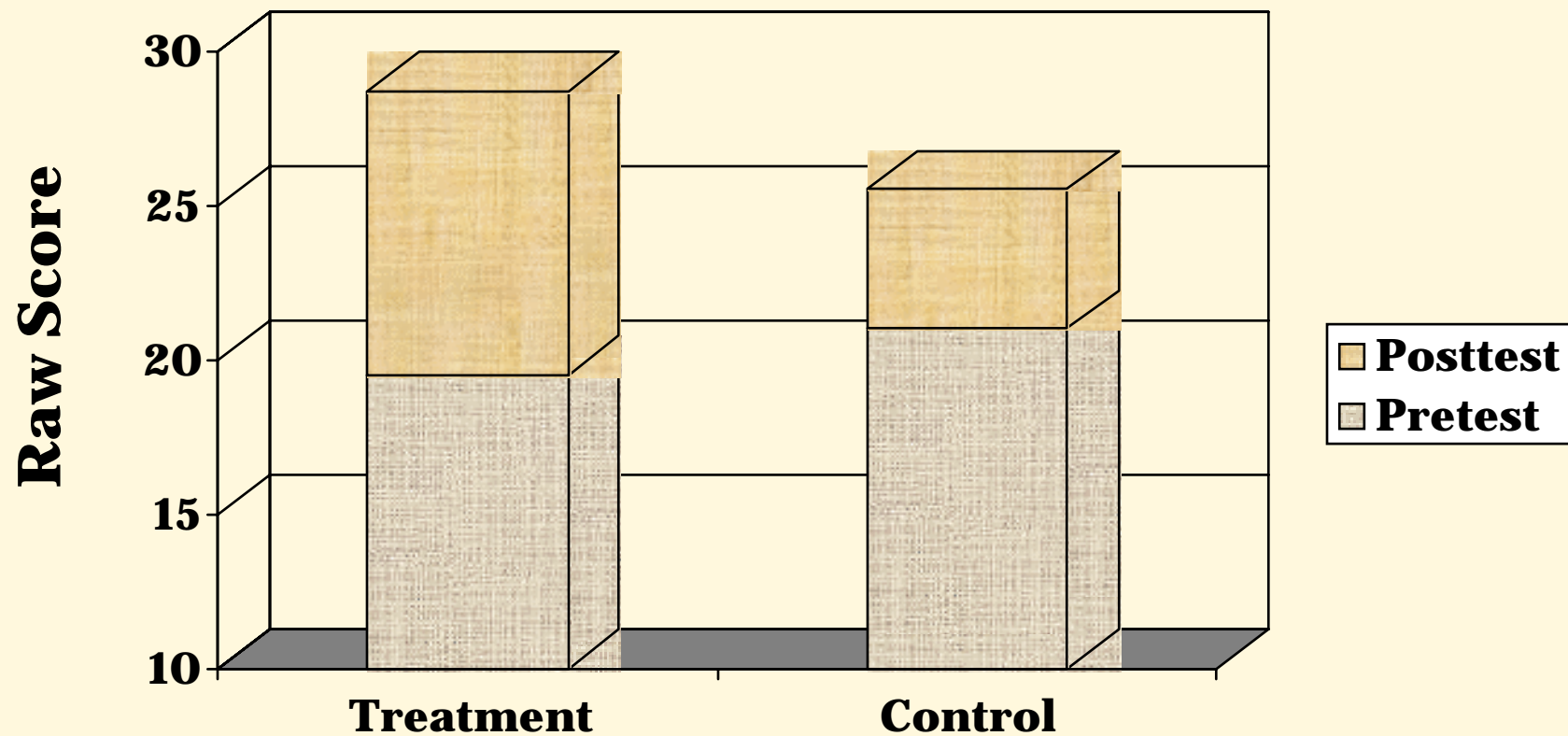
Statistically significant differences in favor of Spanish Intervention treatment group for outcomes in Spanish. Time × Treatment Interaction effects for:

- Letter sounds
- Blending phonemes — words and non-words
- Word attack
- Oral reading fluency — Spanish
- Passage comprehension
- Overall language development

Spanish Letter Sounds: Pretest

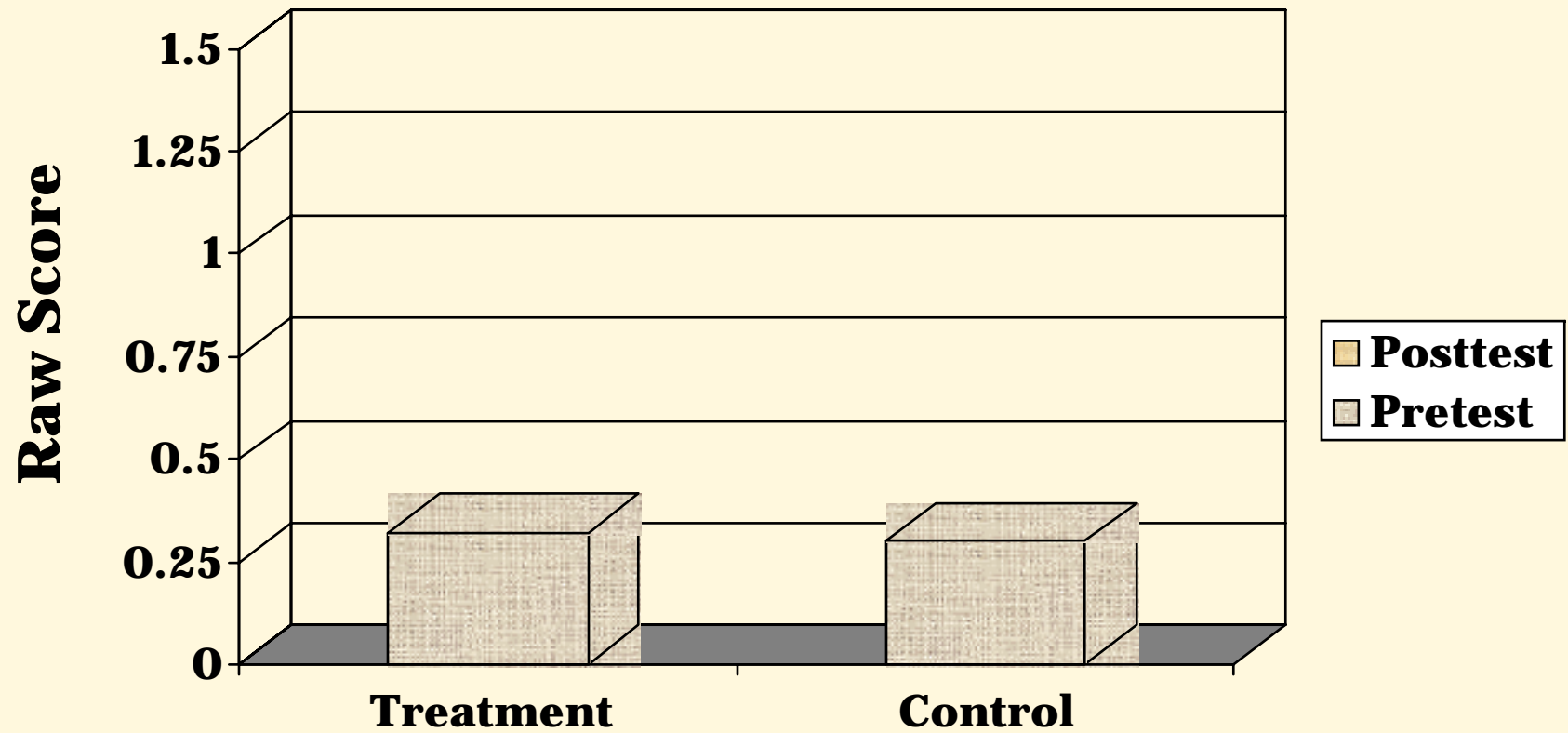


Spanish Letter Sounds: Posttest

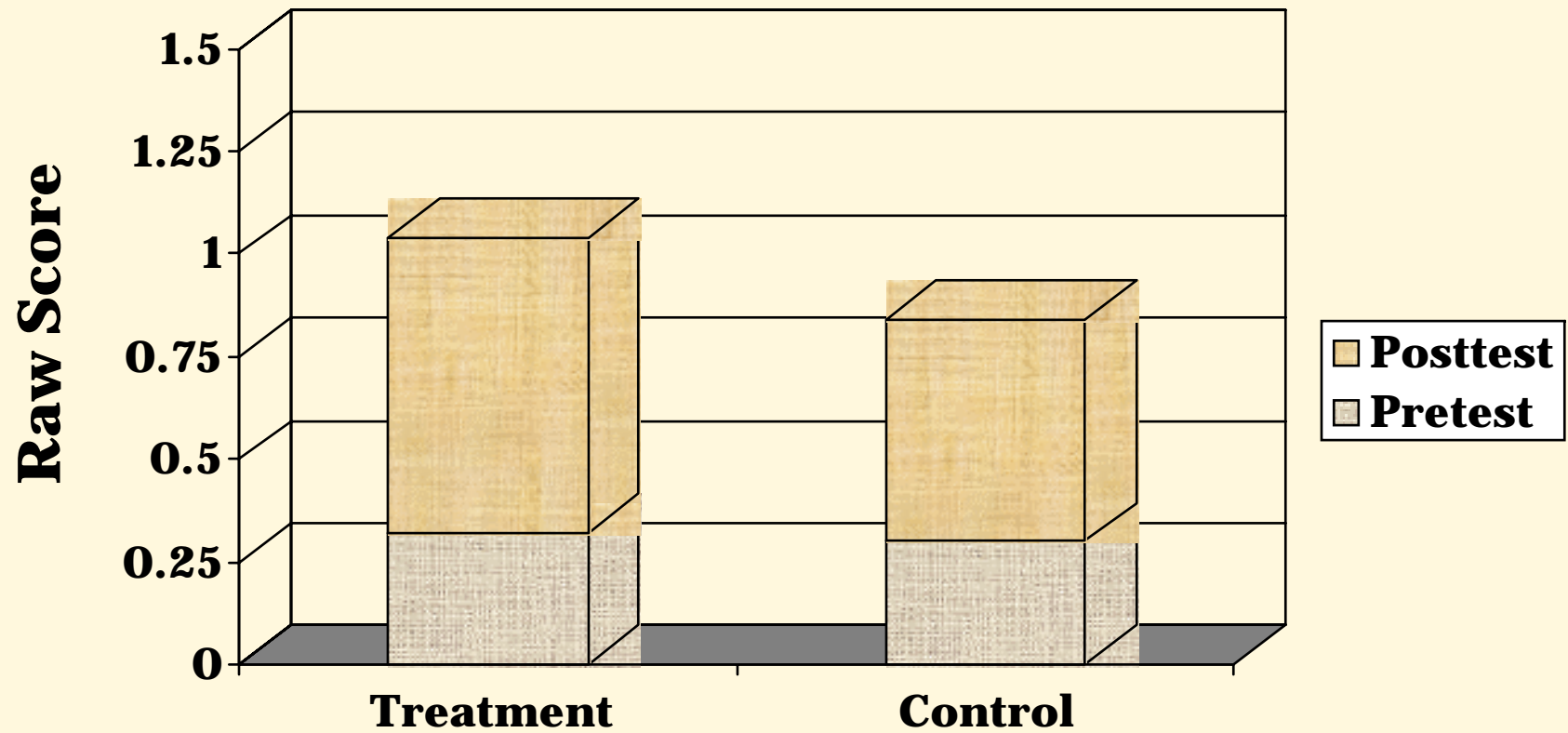


$d=+.72$

Spanish RAN: Pretest

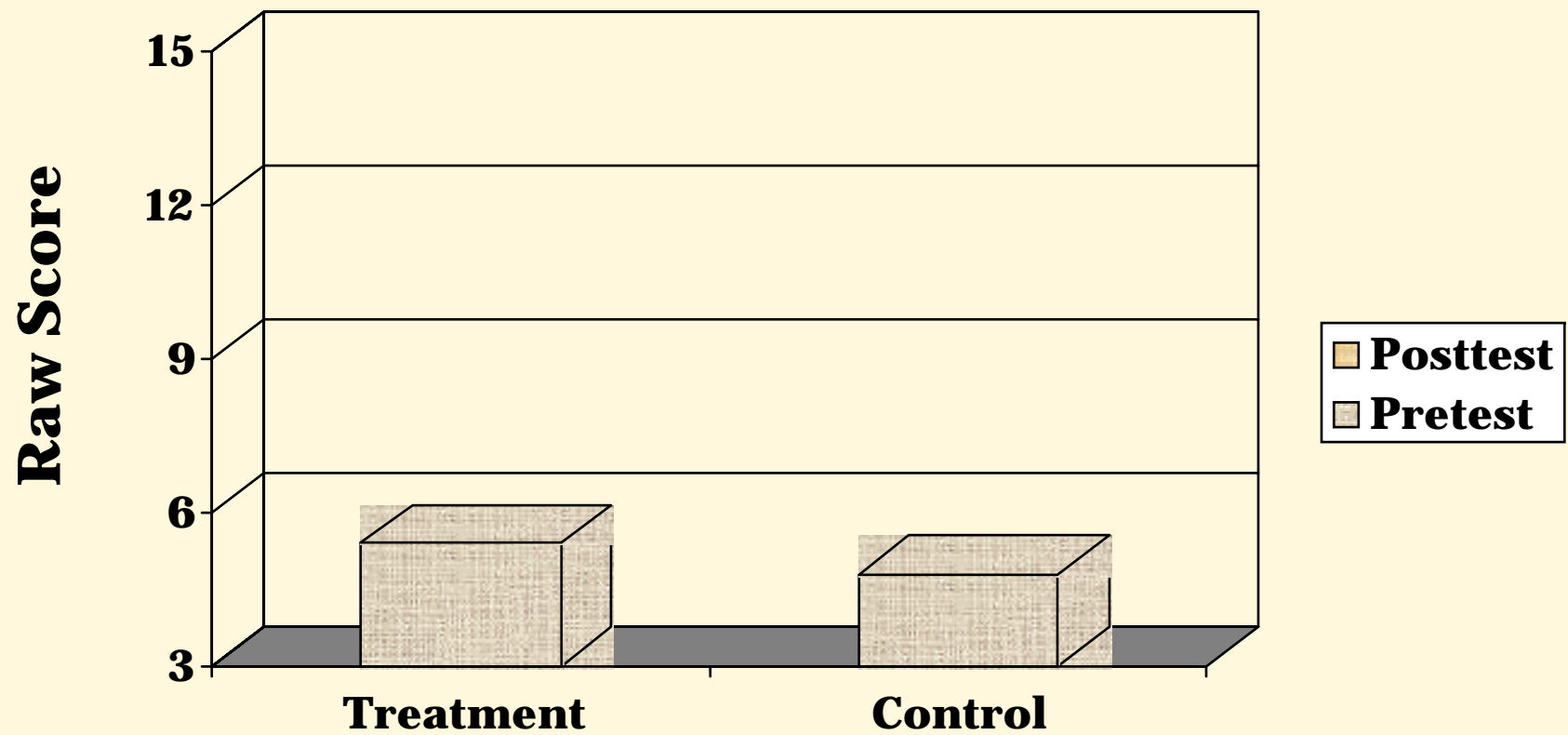


Spanish RAN: Posttest

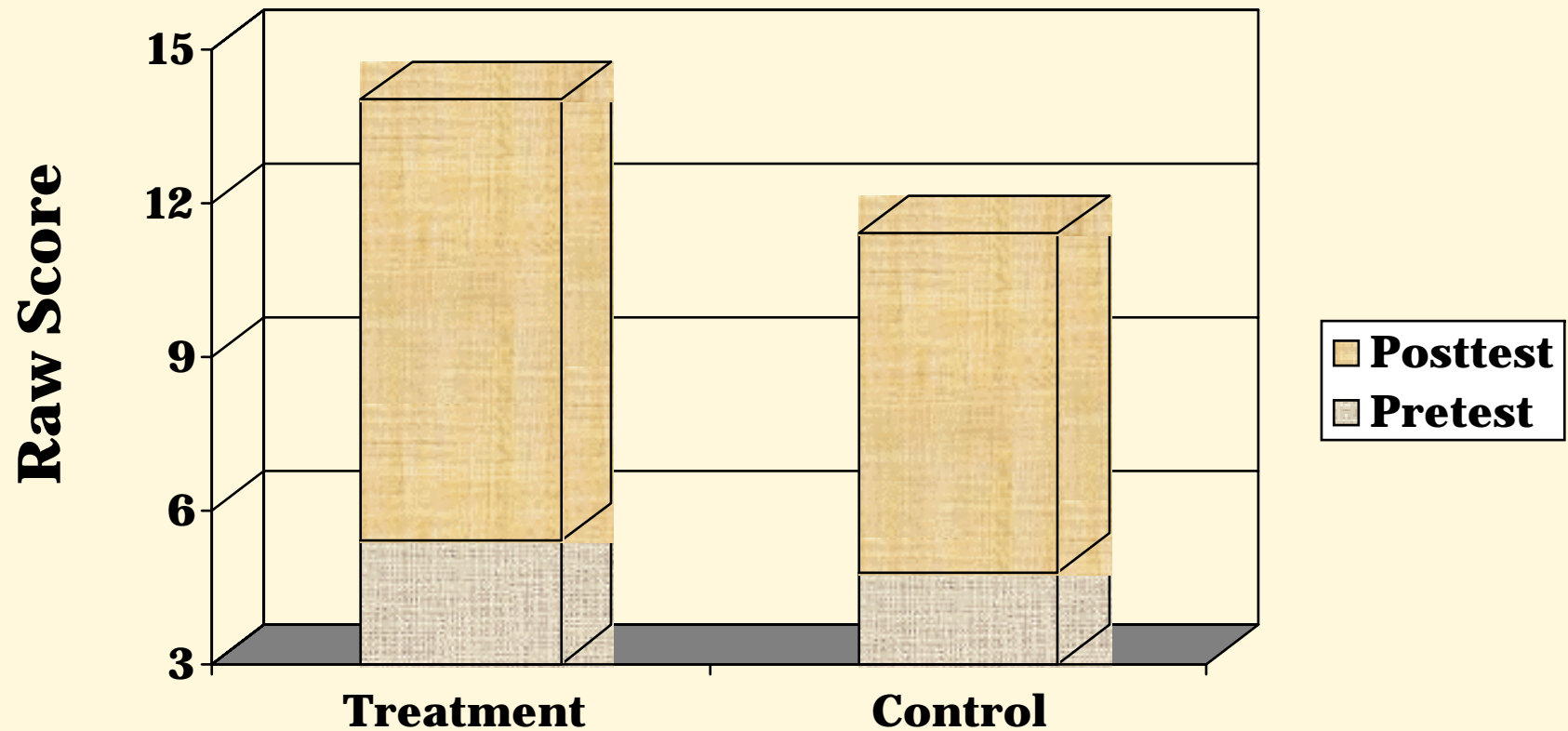


$d=+.46$

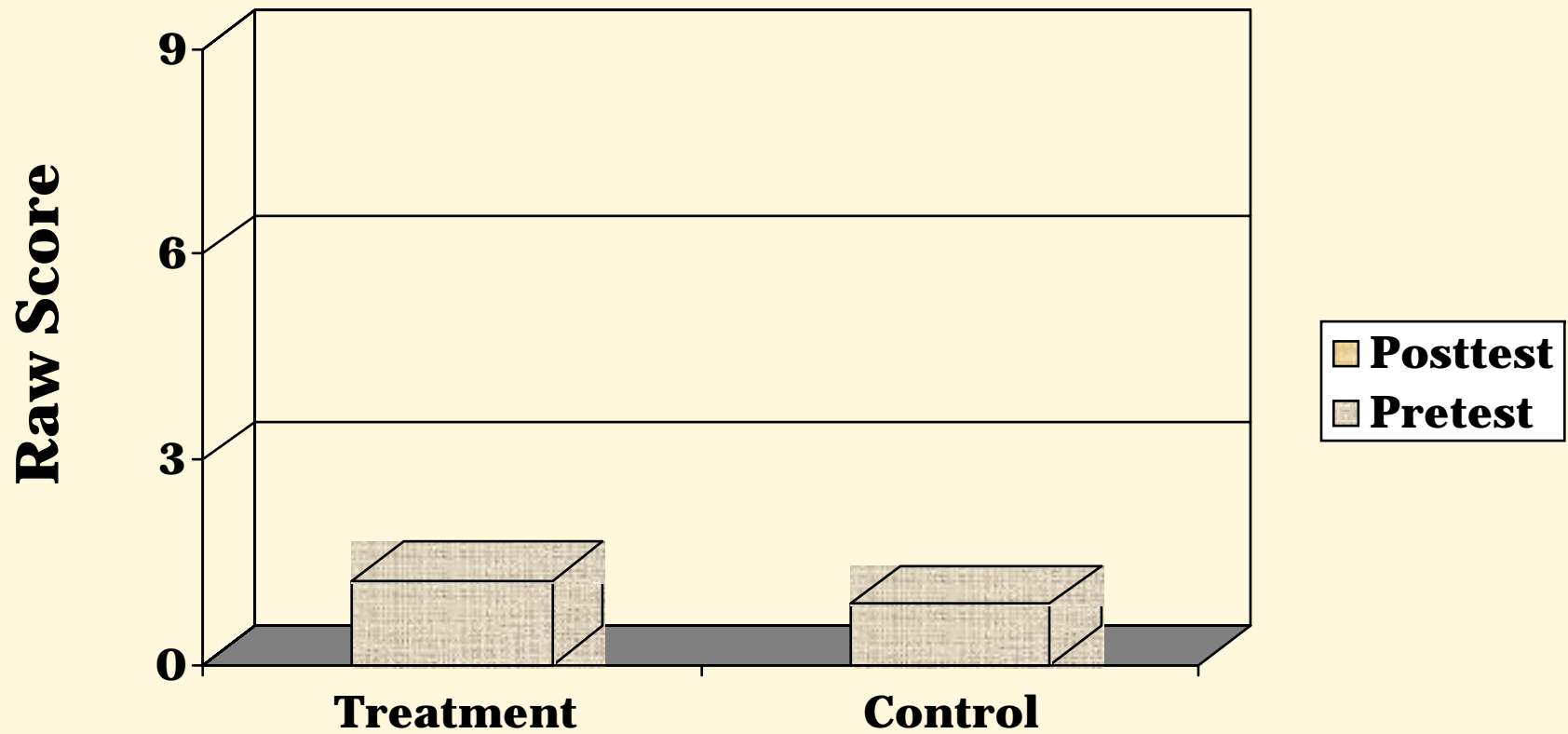
Spanish Blending Phonemes Words: Pretest



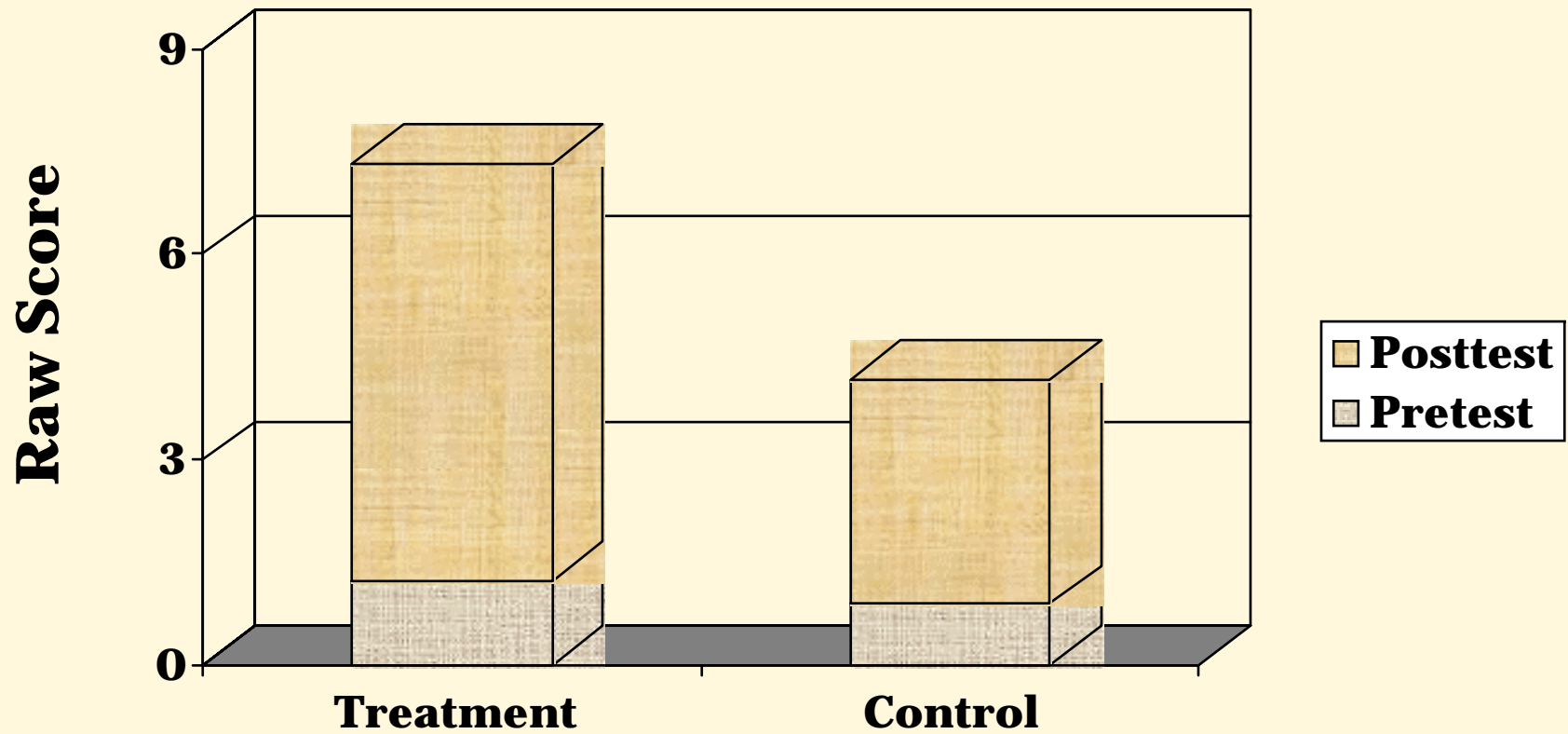
Spanish Blending Phonemes Words: Posttest



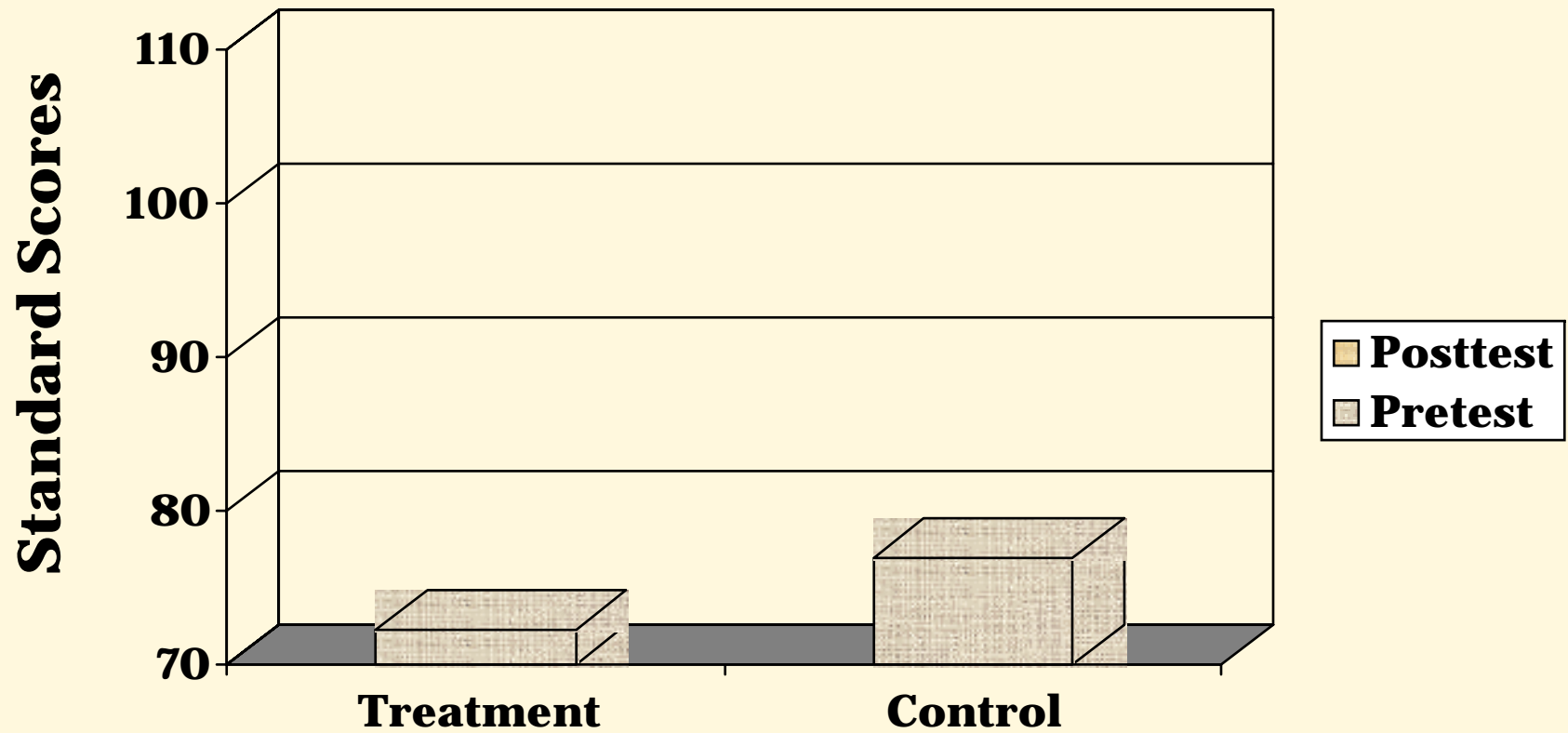
Spanish Elision: Pretest



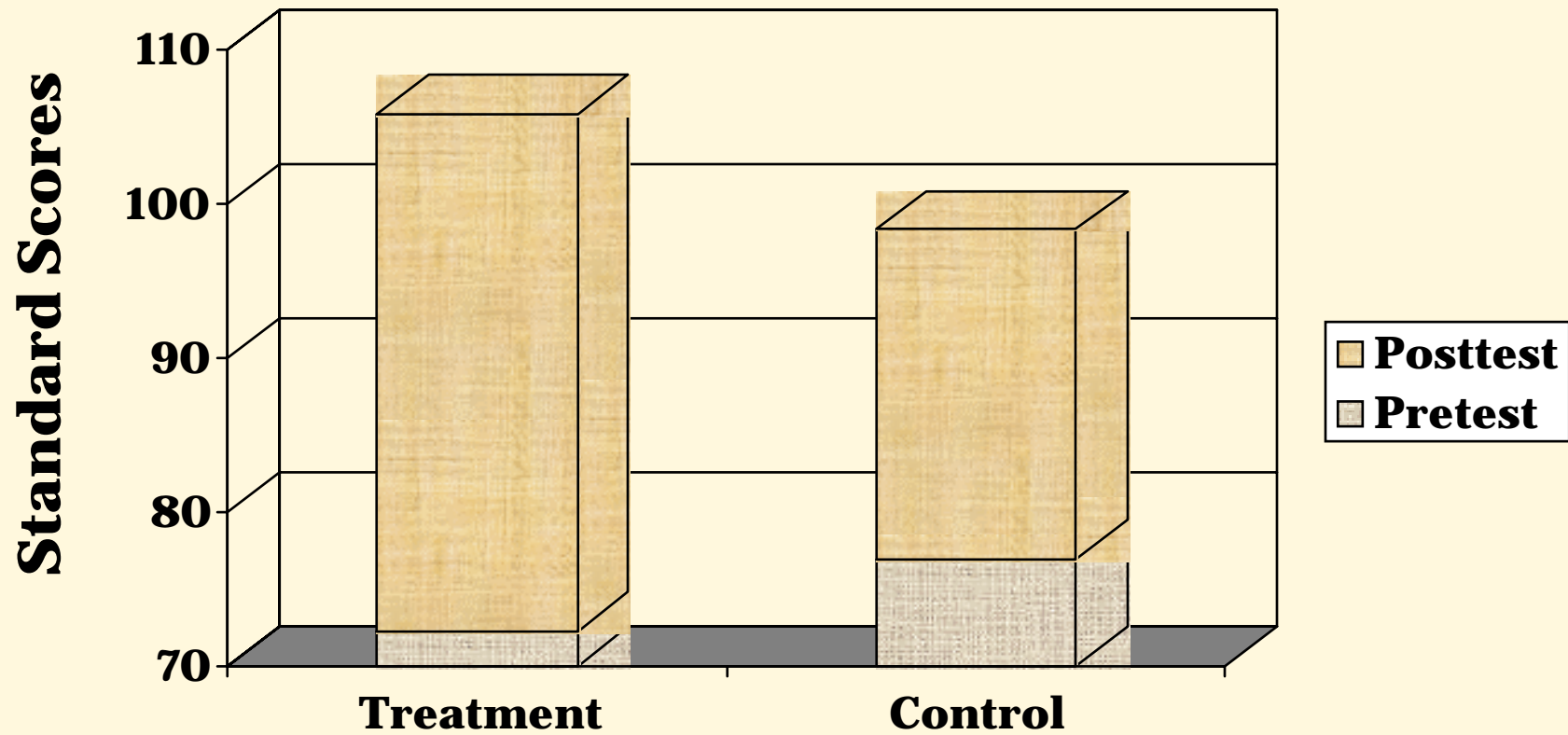
Spanish Elision: Posttest



Spanish Passage Comprehension: Pretest

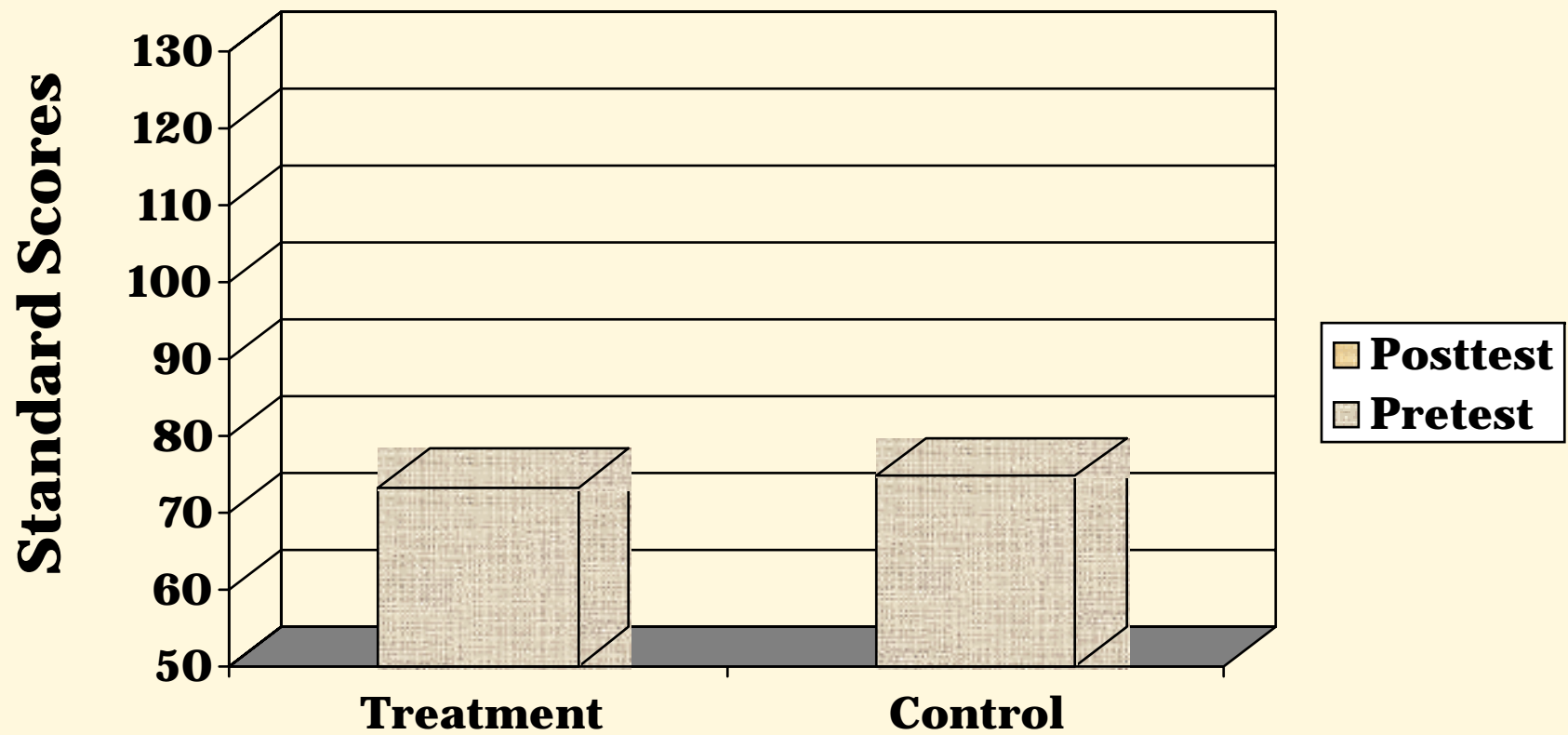


Spanish Passage Comprehension: Posttest

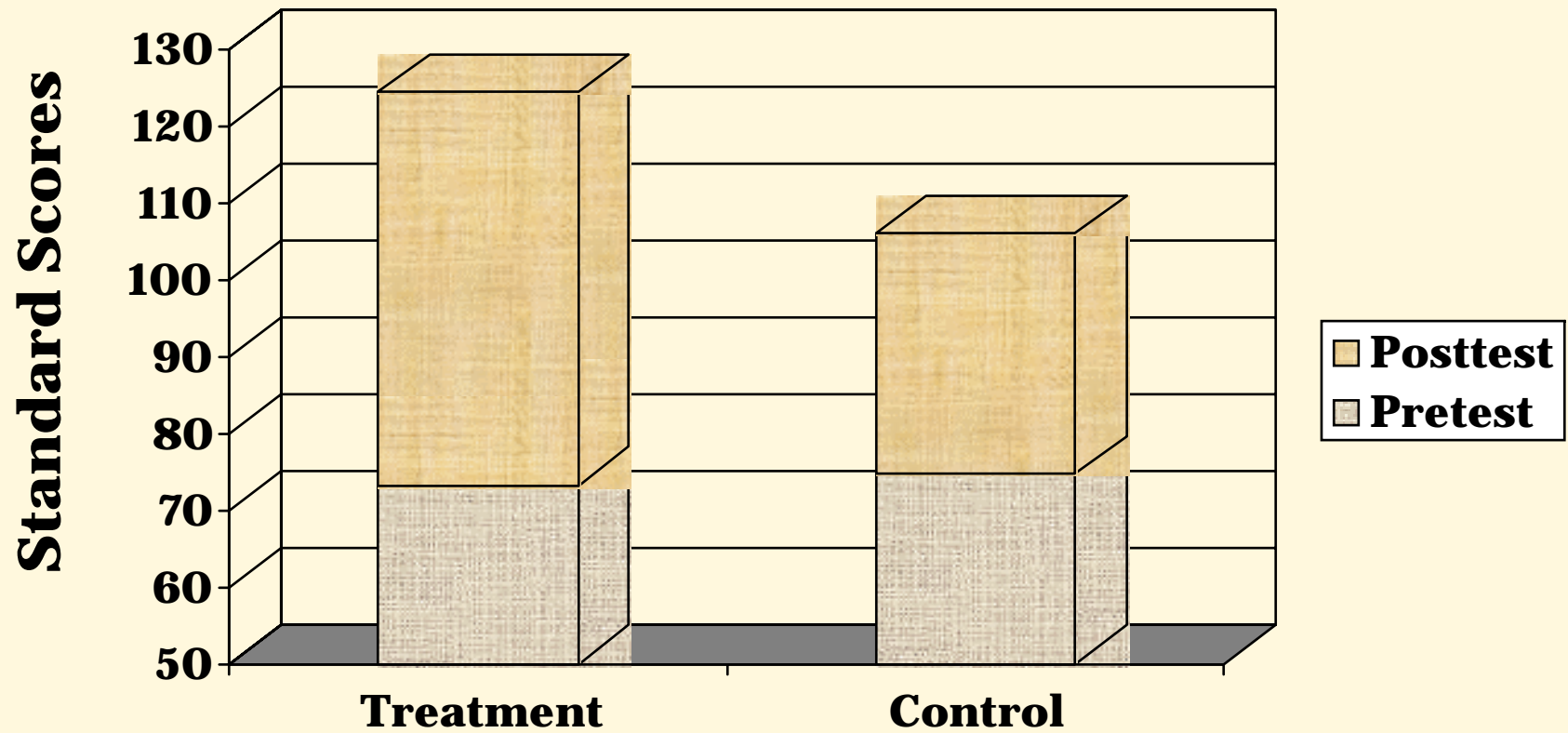


$d=+.55$

Spanish Word Attack: Pretest

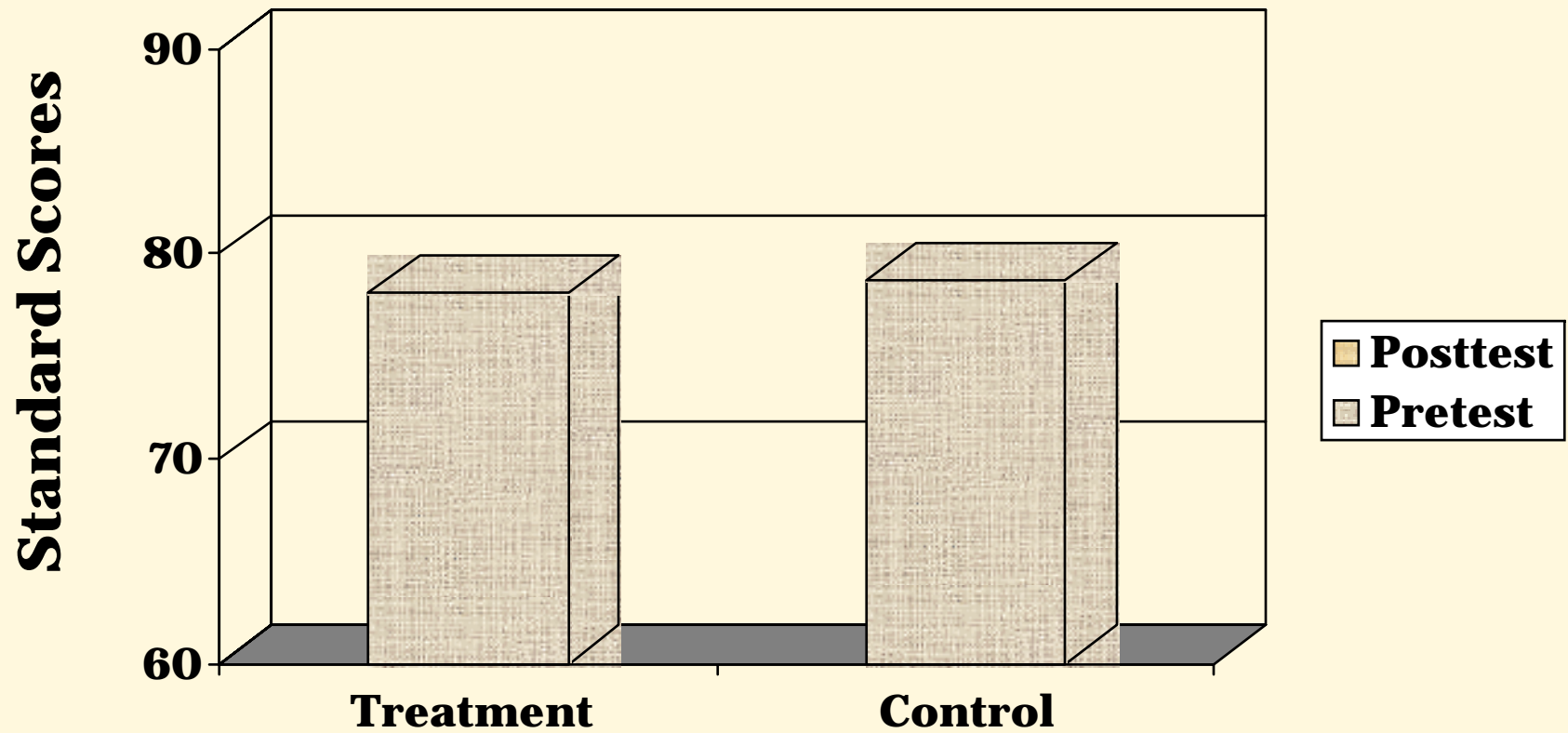


Spanish Word Attack: Posttest

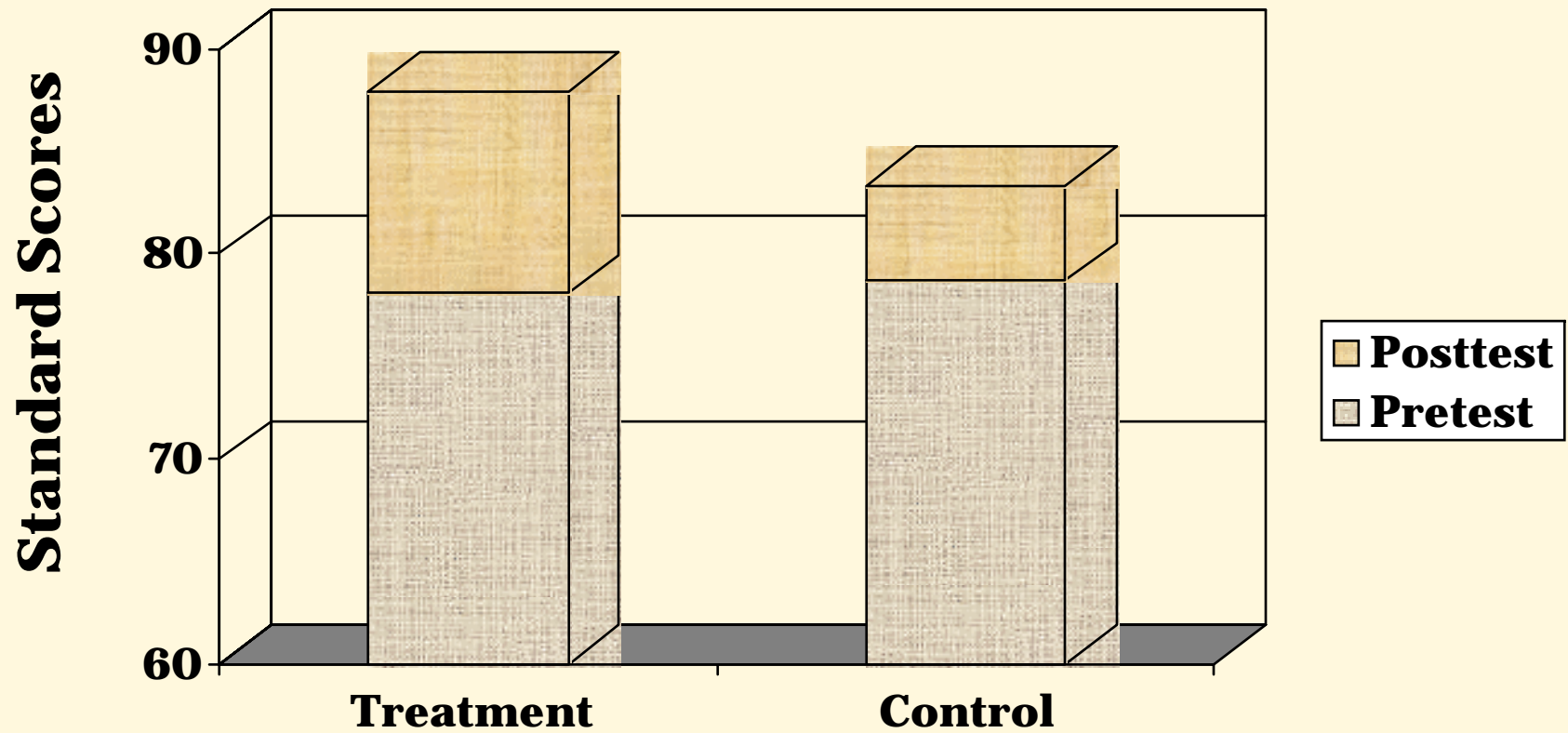


$d=+.85$

Spanish Oral Language Composite: Pretest

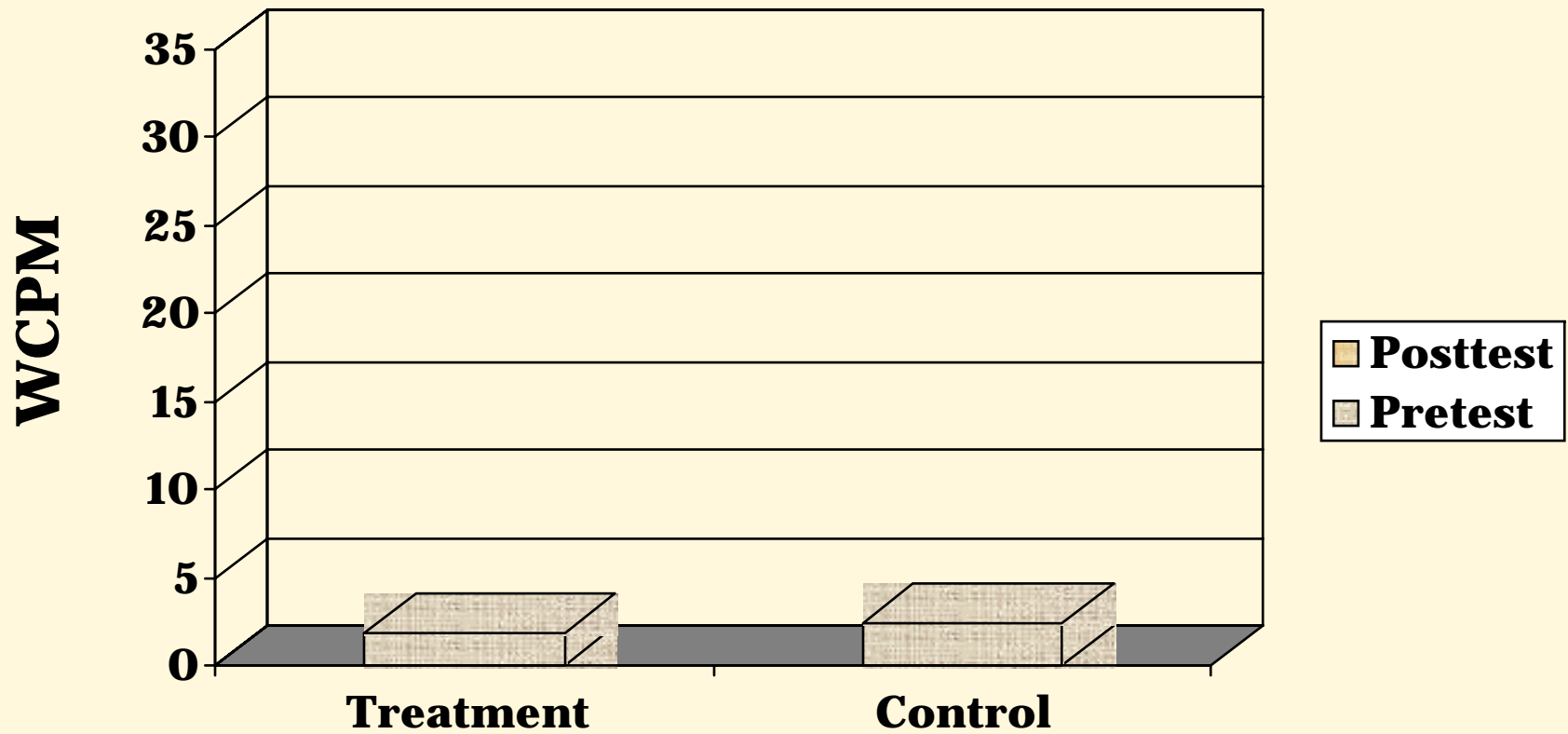


Spanish Oral Language Composite: Posttest

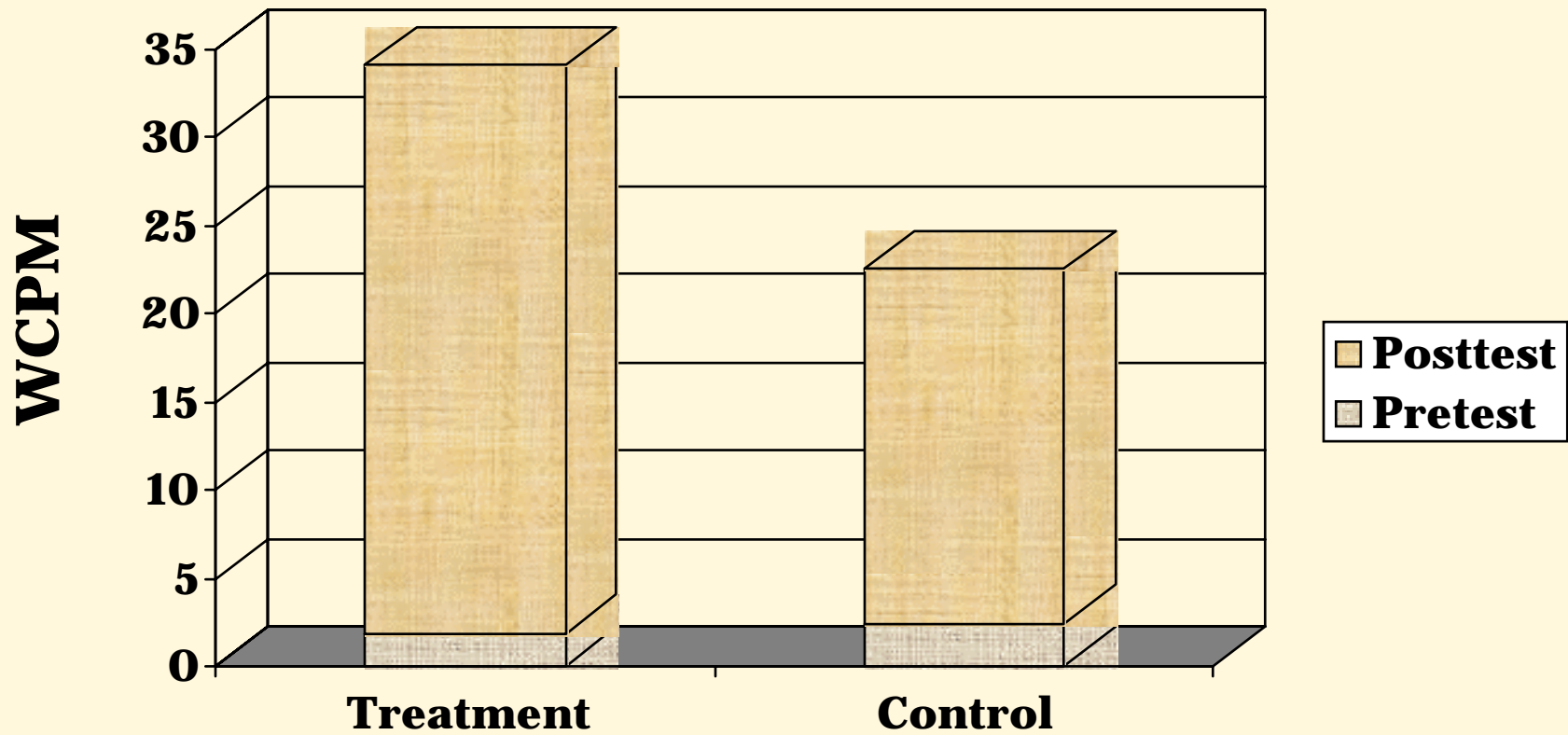


$d=+.35$

Spanish DIBELS—Oral Reading Fluency WCPM: Pretest



Spanish DIBELS—Oral Reading Fluency: Posttest



$d=+.75$

Effect Sizes for Spanish Intervention

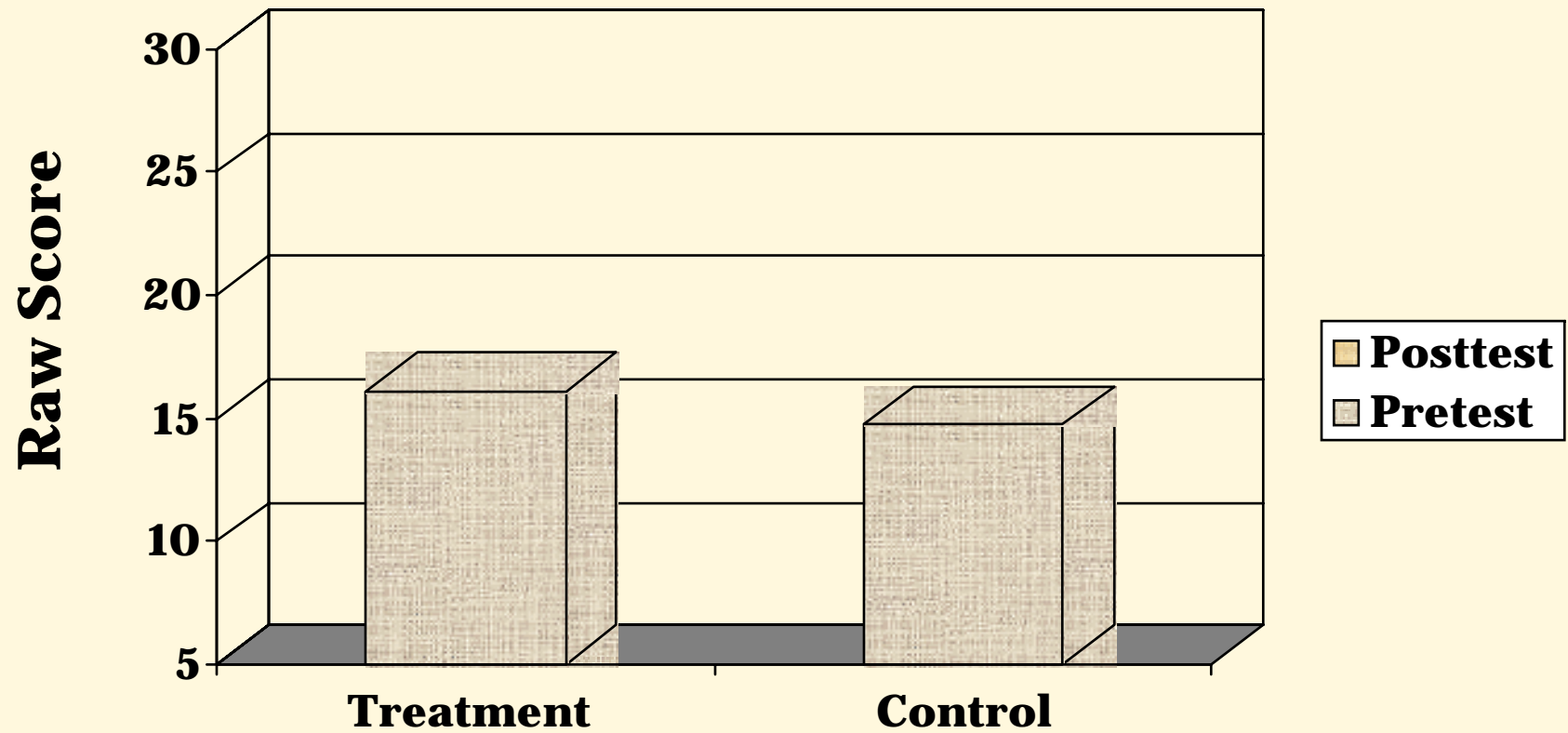
Spanish Measure	Effect Size
Letter Name Identification	+.32
Rapid Letter Naming	+.46
Letter Sound Identification	+.72
PA Composite	+.73
Oral Language Composite	+.35
Word Attack	+.85
Passage Comprehension	+.55
DIBELS ORF	+.75

Results for English Intervention

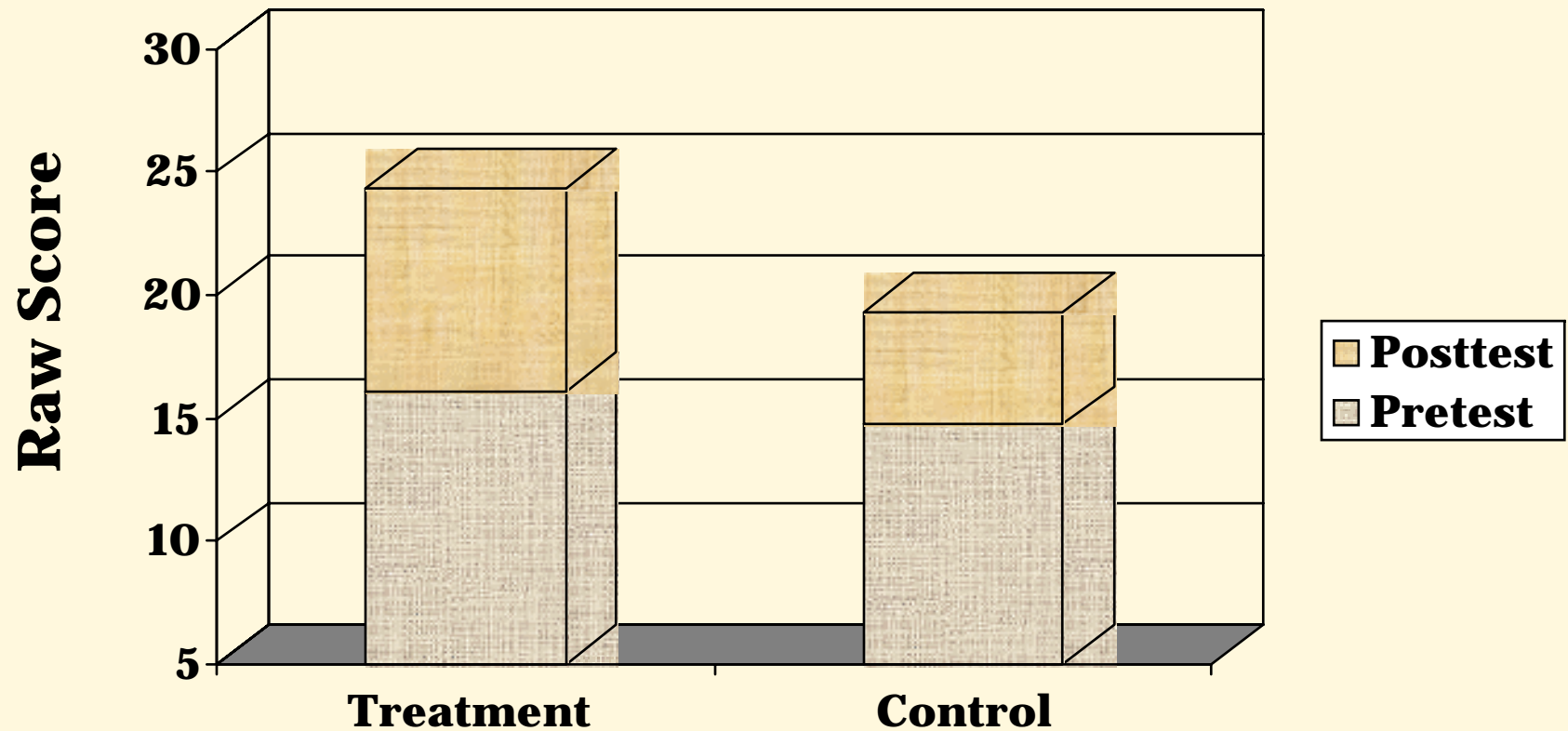
Statistically significant differences in favor of English Intervention treatment group for outcomes in English. Time × Treatment Interaction effects for:

- Letter naming fluency
- Letter sound identification
- Phonological composite (sound matching, blending words, blending non-words, segmenting words, elision)
- Word attack
- Dictation
- Passage comprehension

English Letter Sound Identification: Pretest

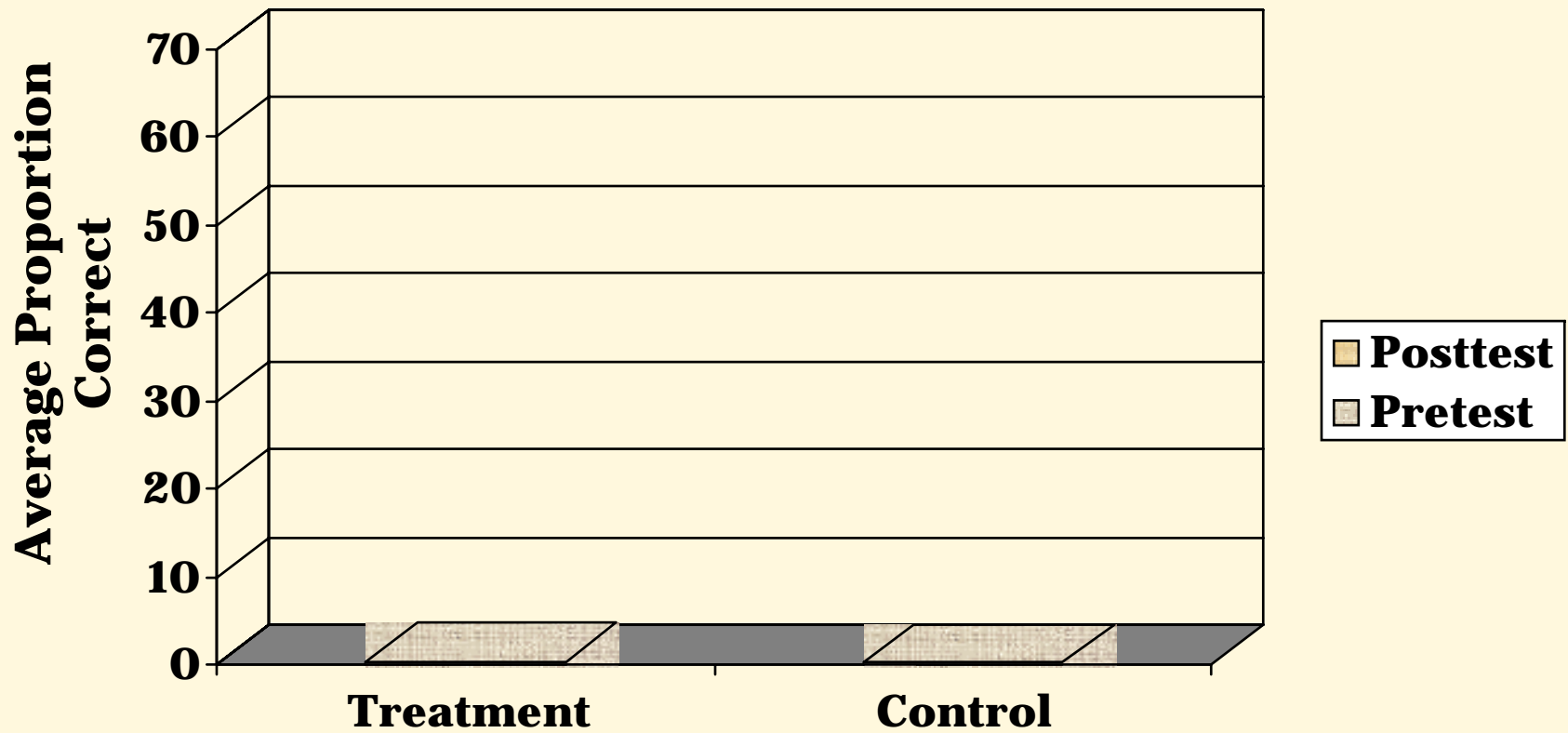


English Letter Sound Identification: Posttest

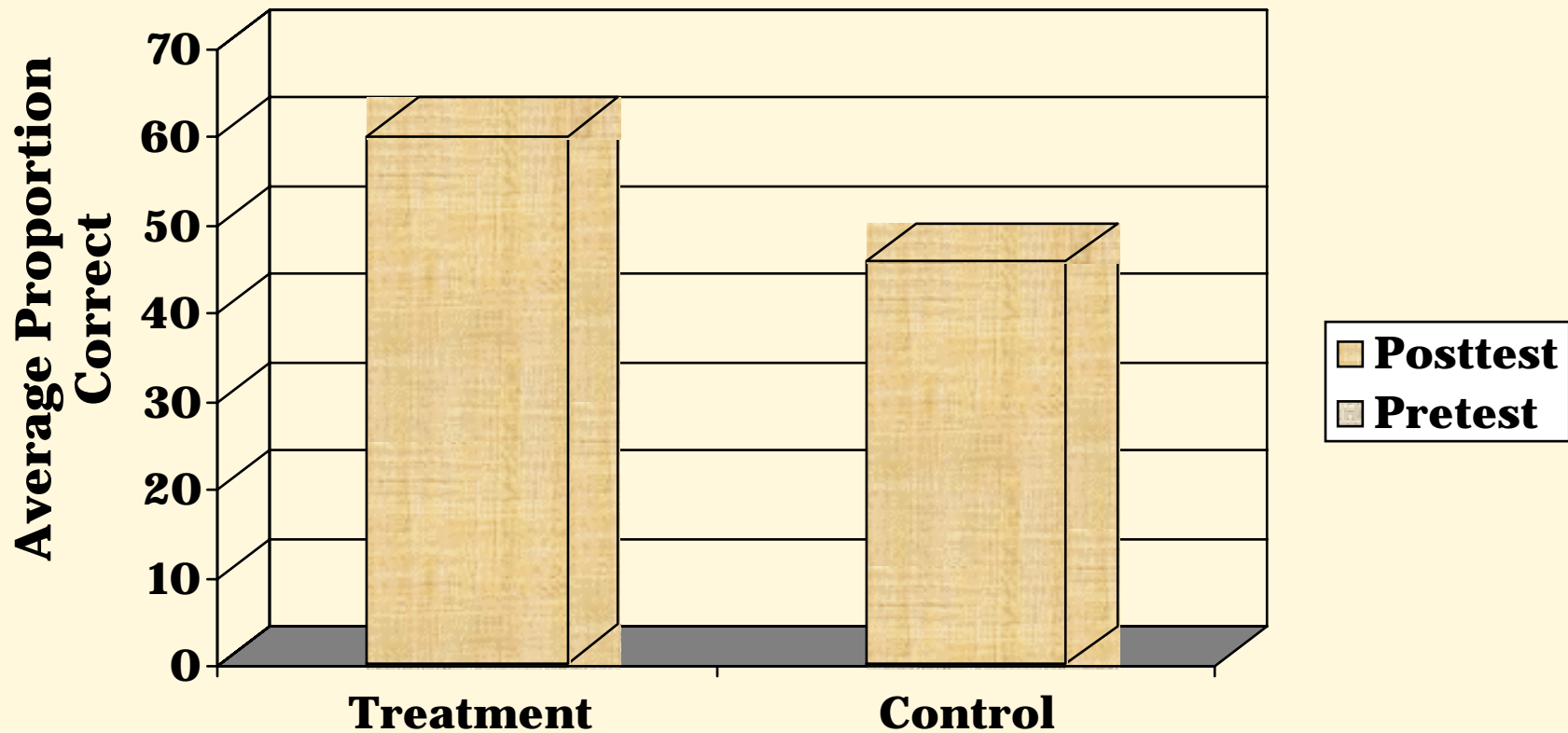


$d=+1.01$

English Phonological Composite: Pretest

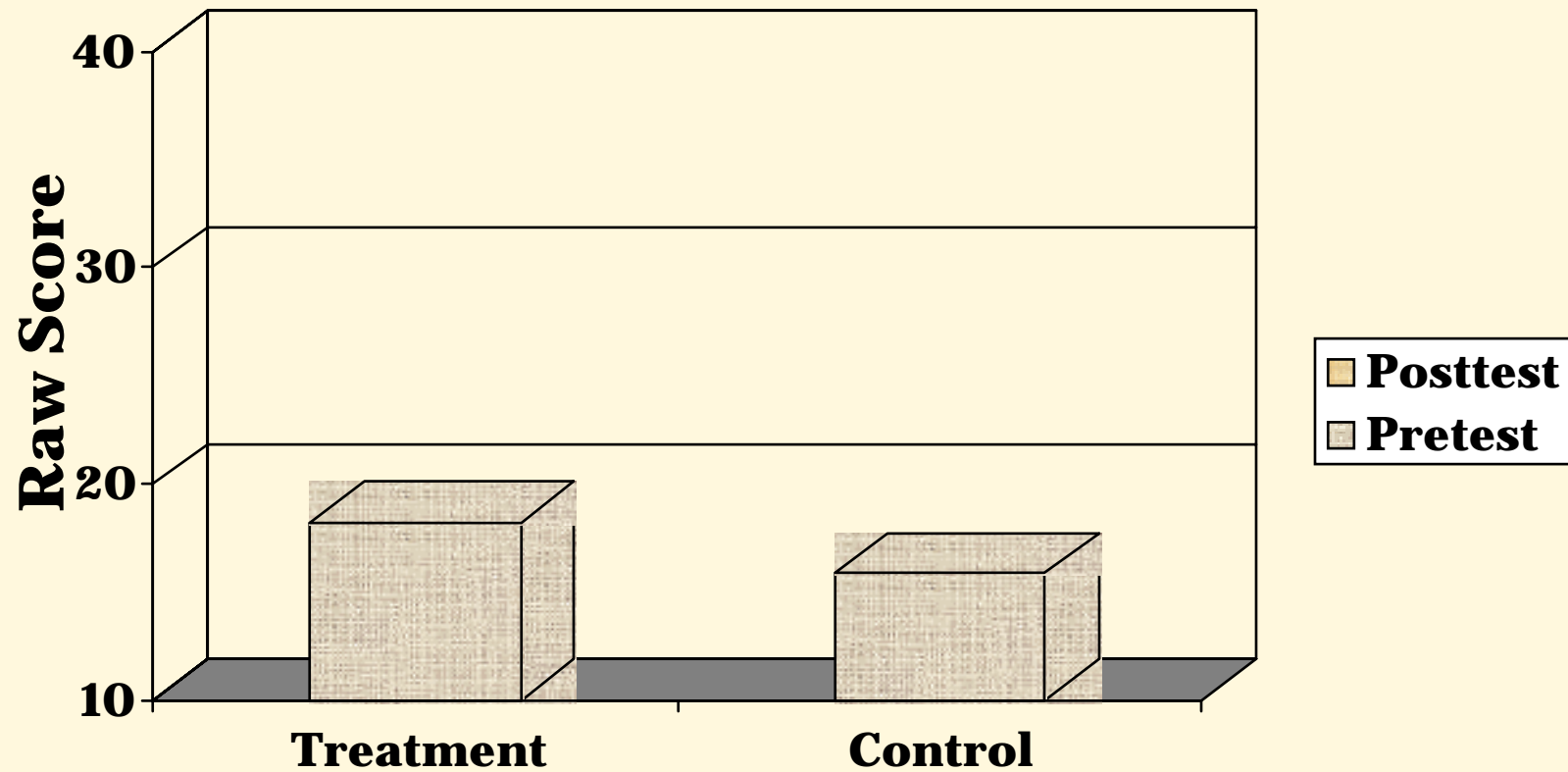


English Phonological Composite: Posttest

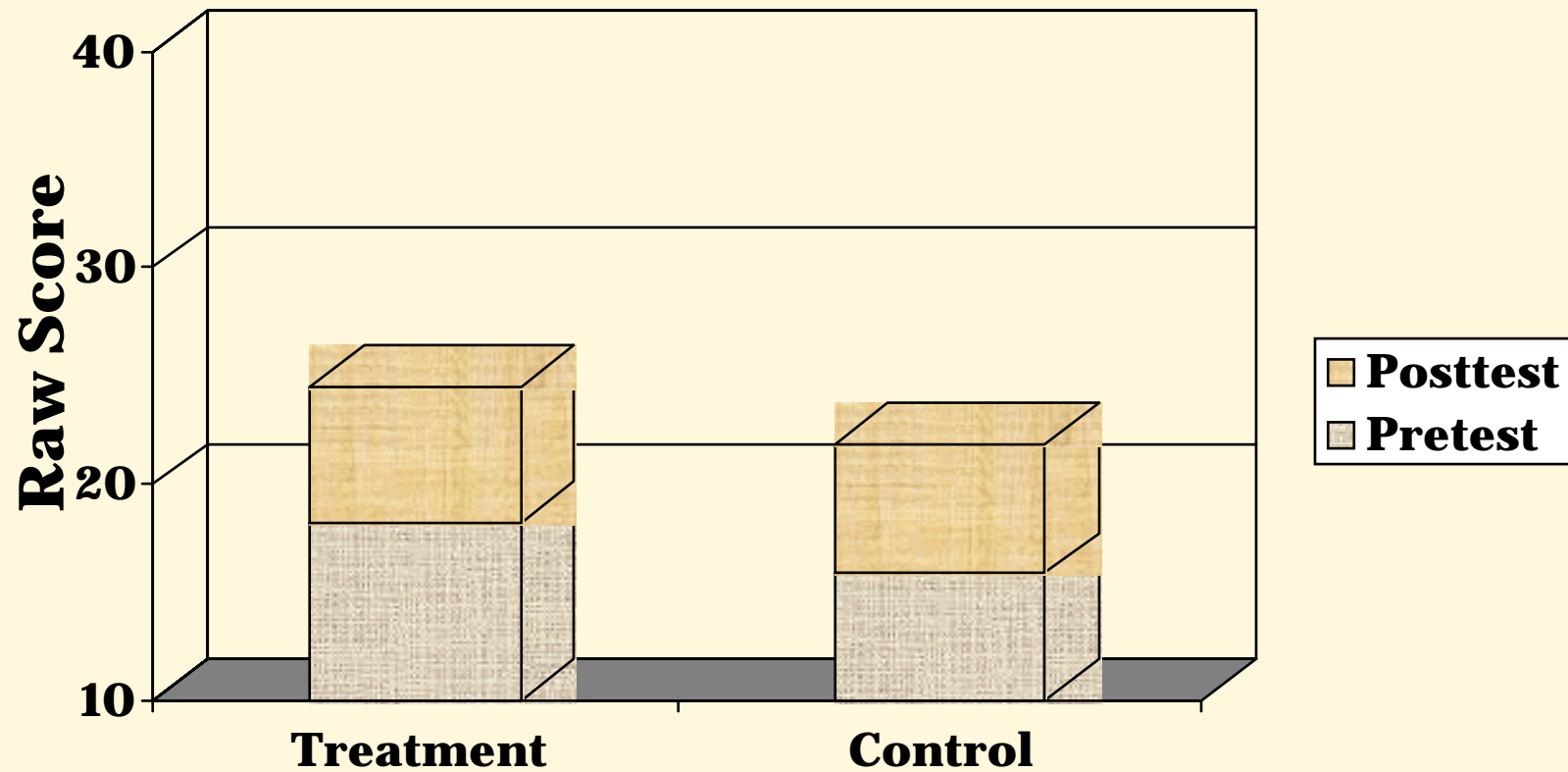


$d=+1.24$

English Letter Name Identification: Pretest

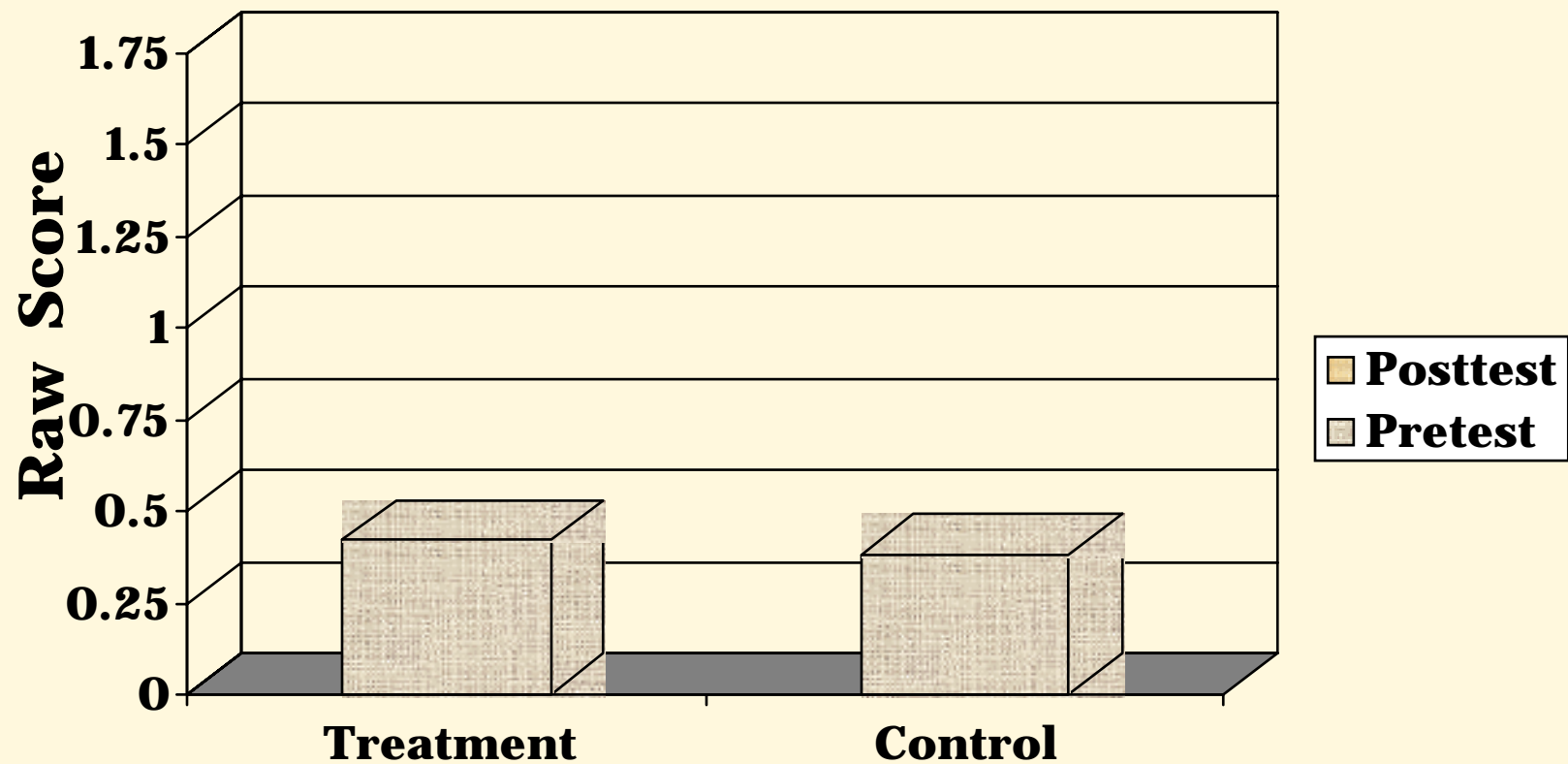


English Letter Name Identification: Posttest

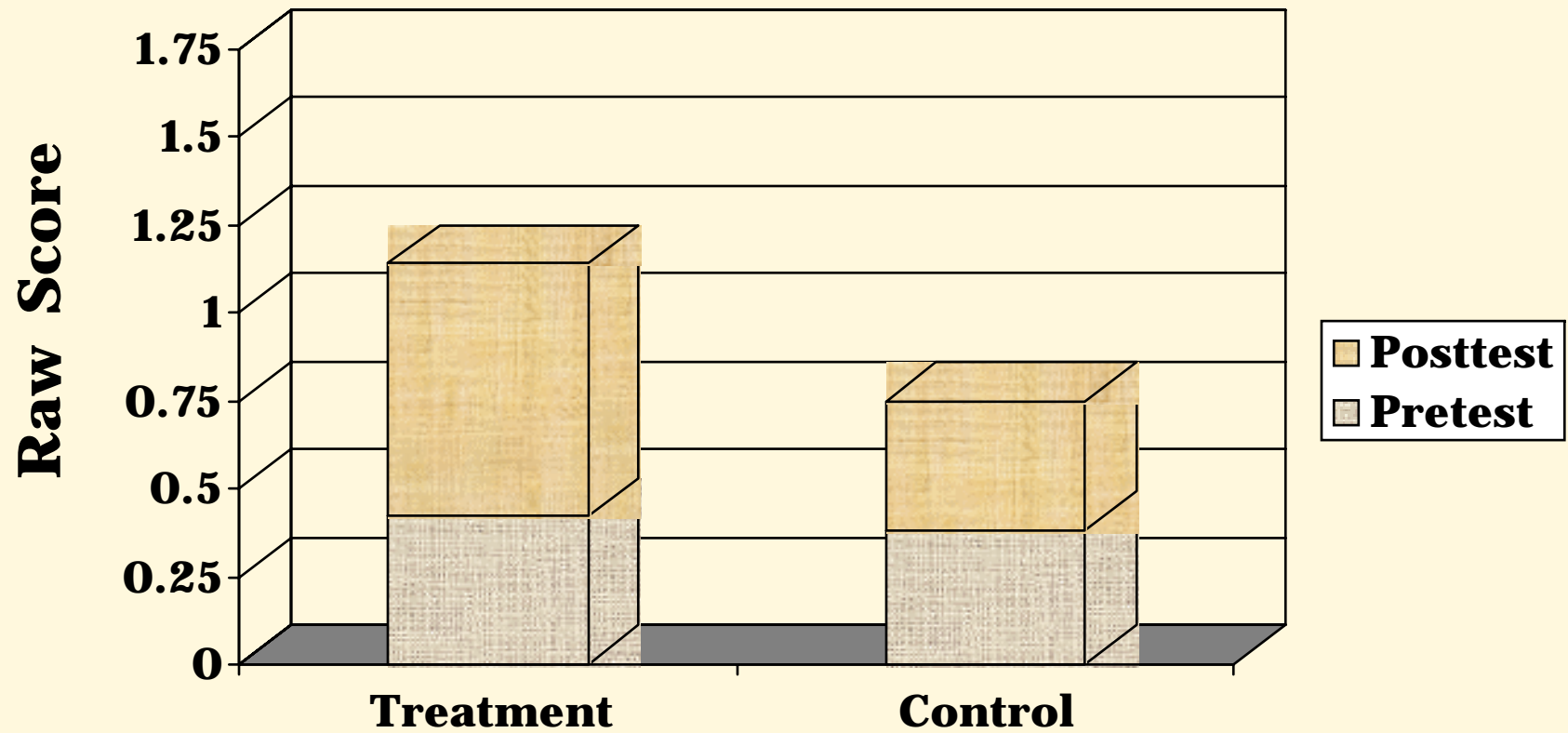


$d=+.59$

English Rapid Letter Naming: Pretest

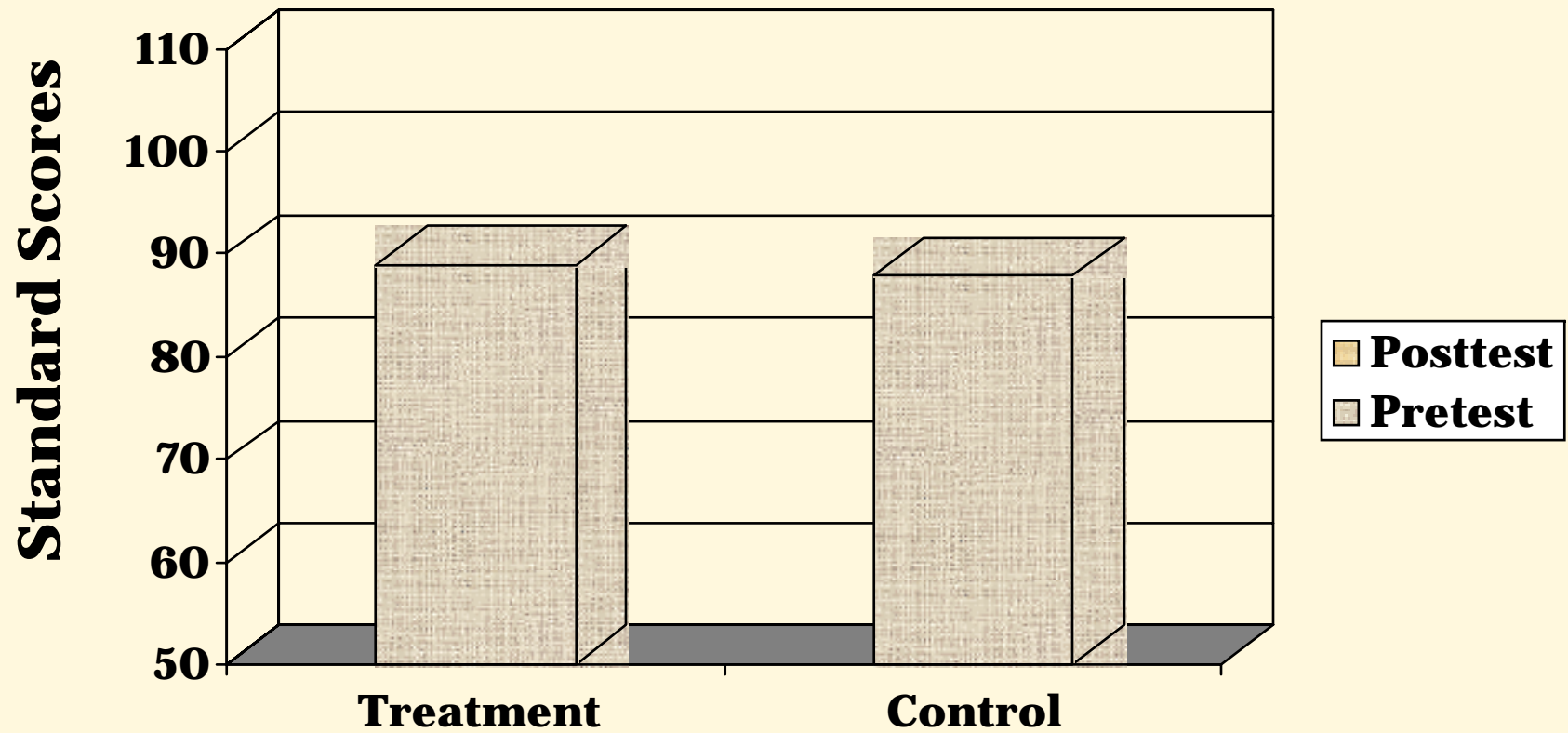


English Rapid Letter Naming: Posttest

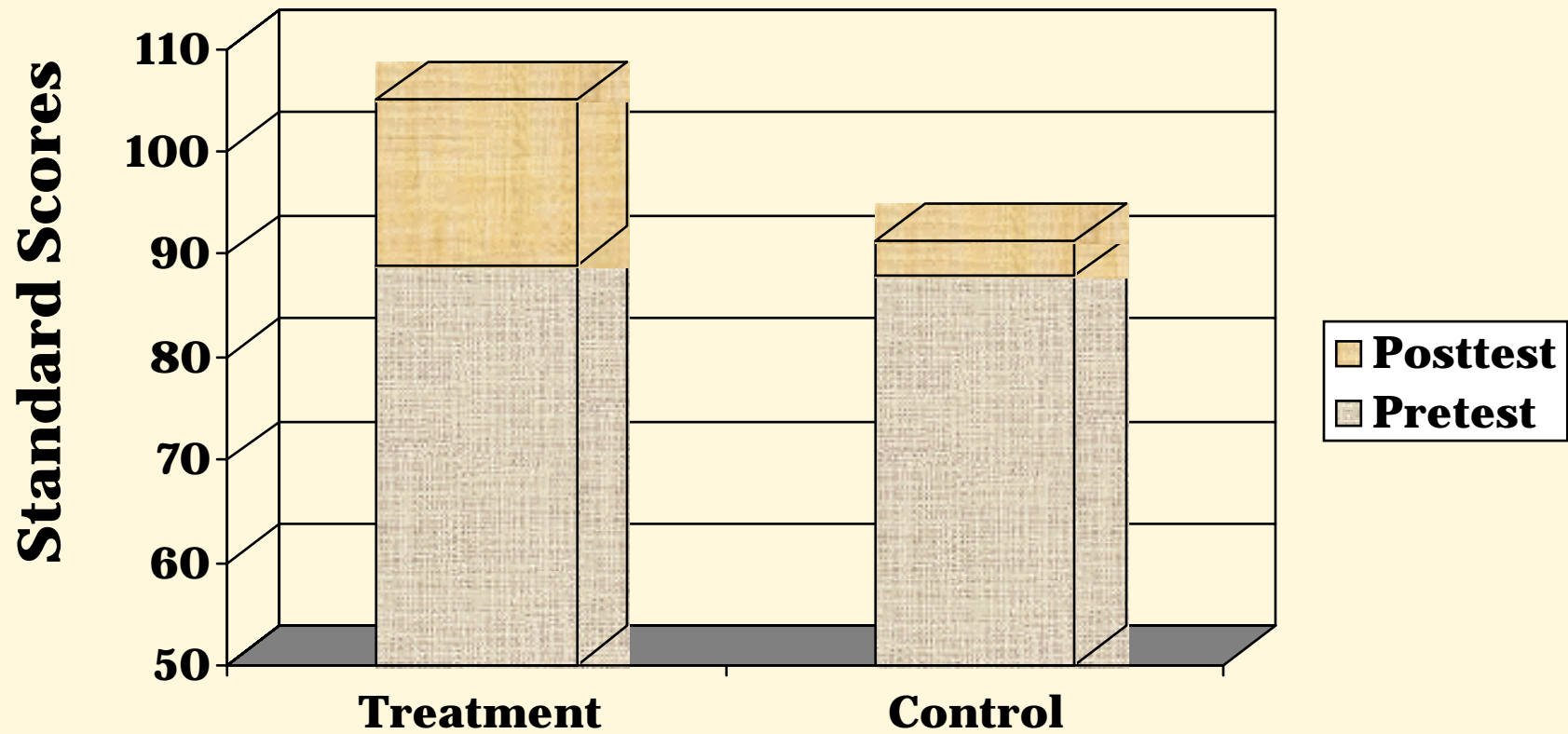


$d=+.88$

English Word Attack: Pretest

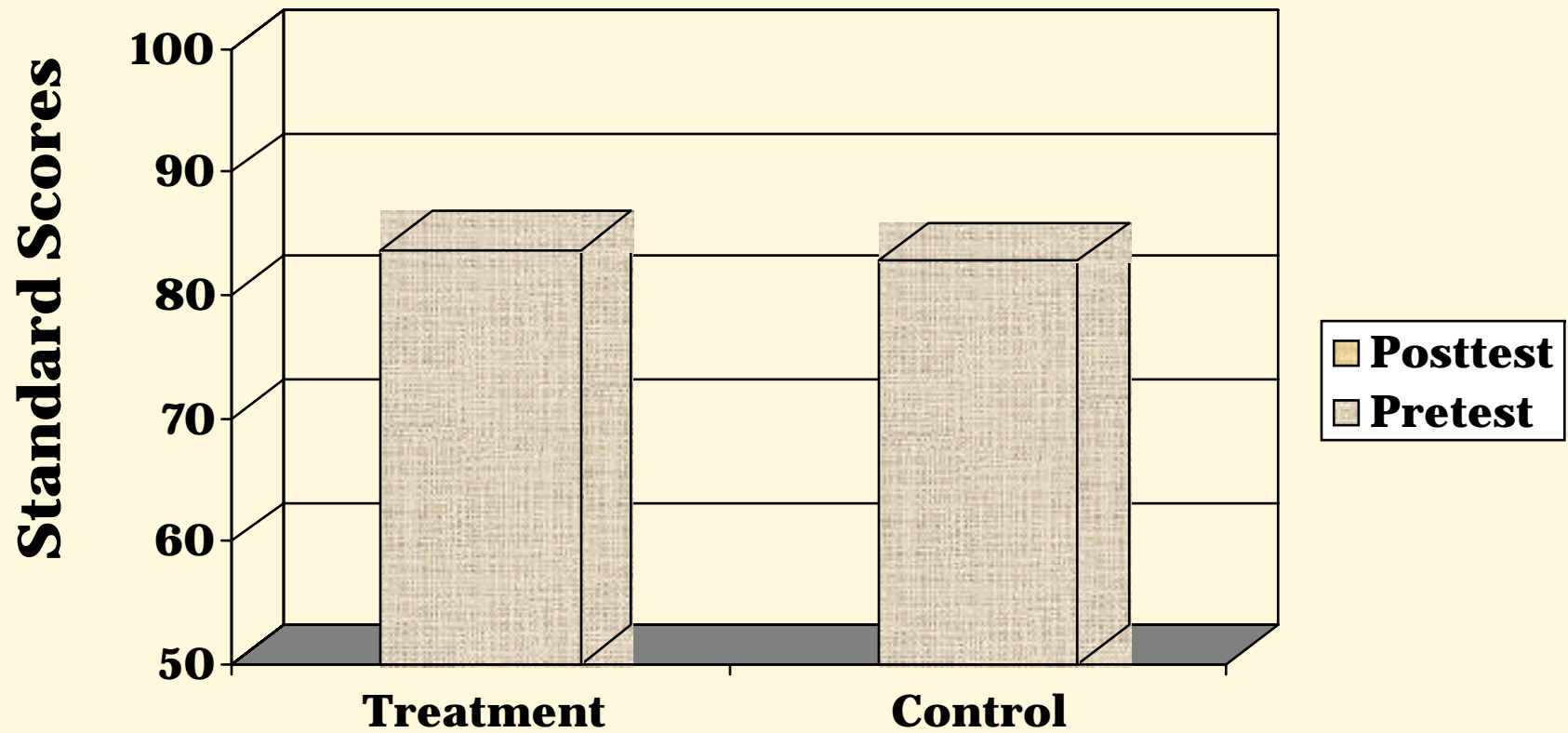


English Word Attack: Posttest

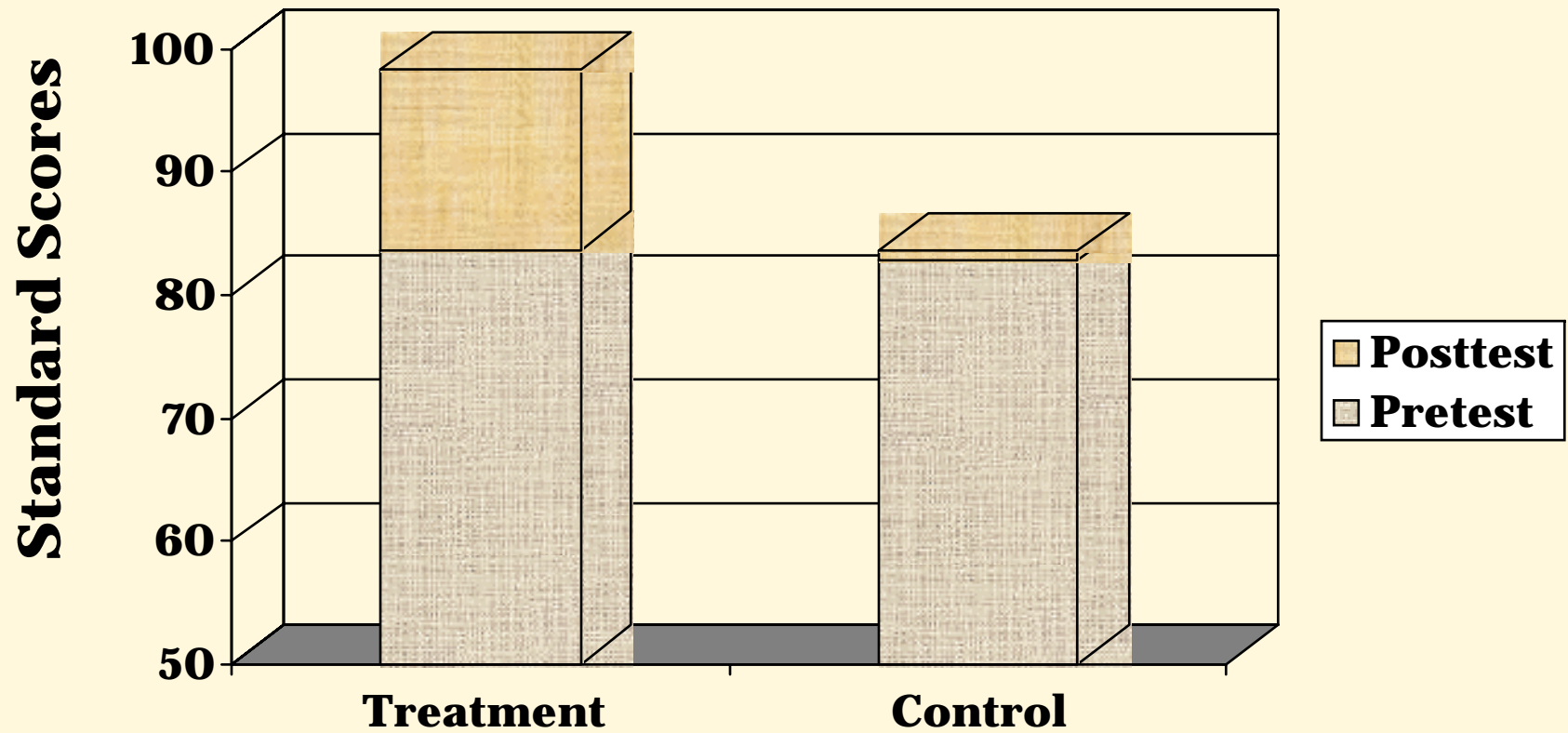


$d = +1.09$

English Passage Comprehension: Pretest

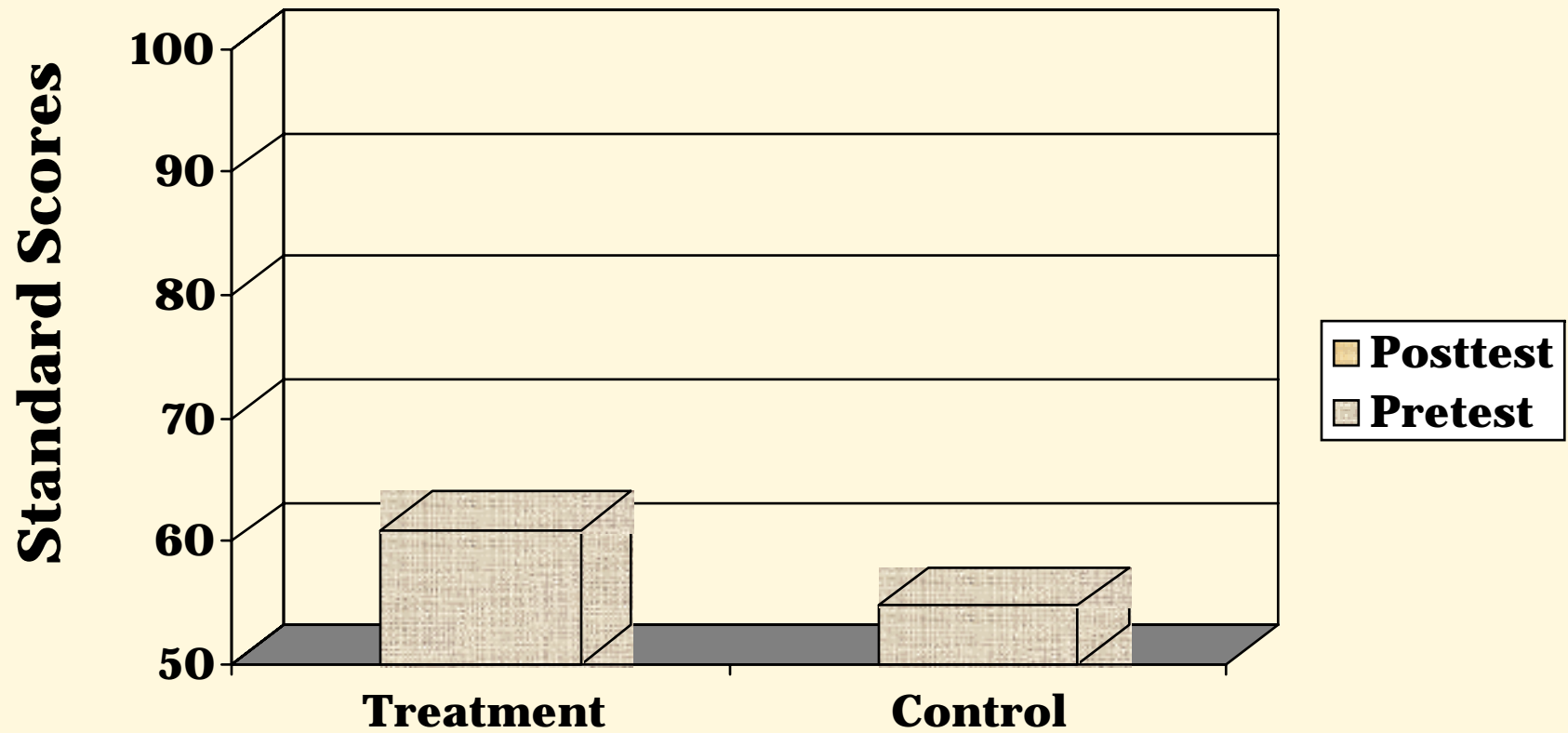


English Passage Comprehension: Posttest

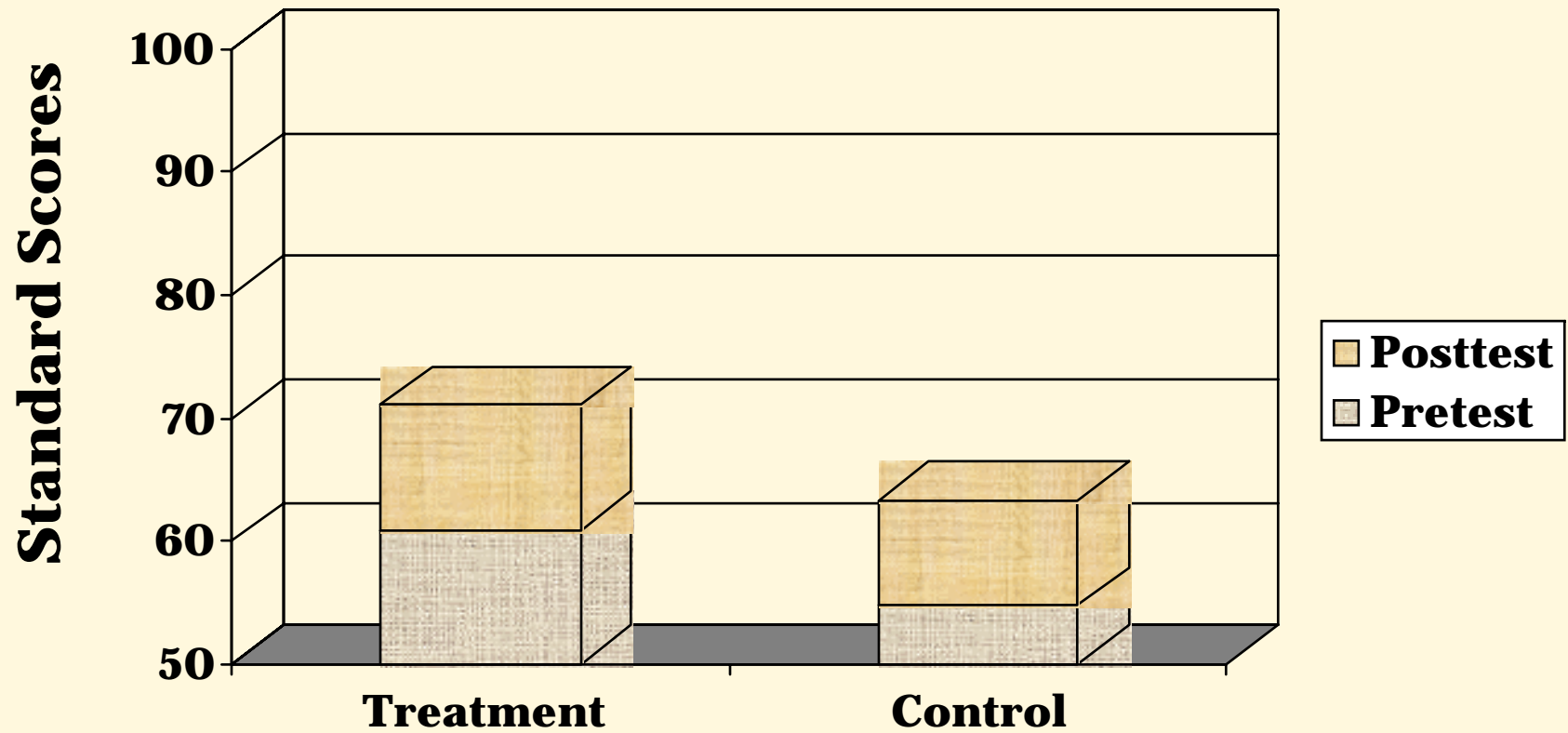


$d=+1.08$

English Oral Language Composite: Pretest

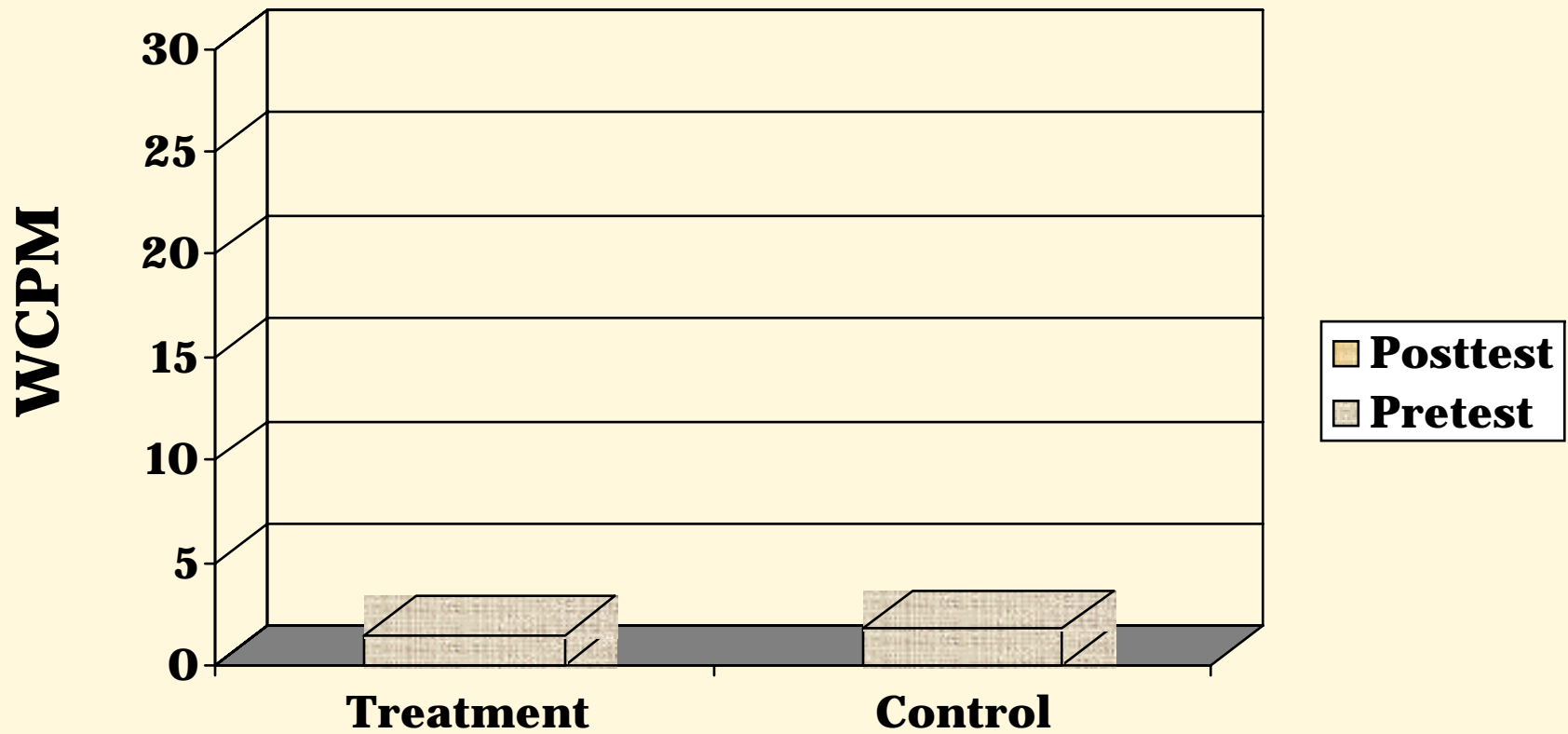


English Oral Language Composite: Posttest

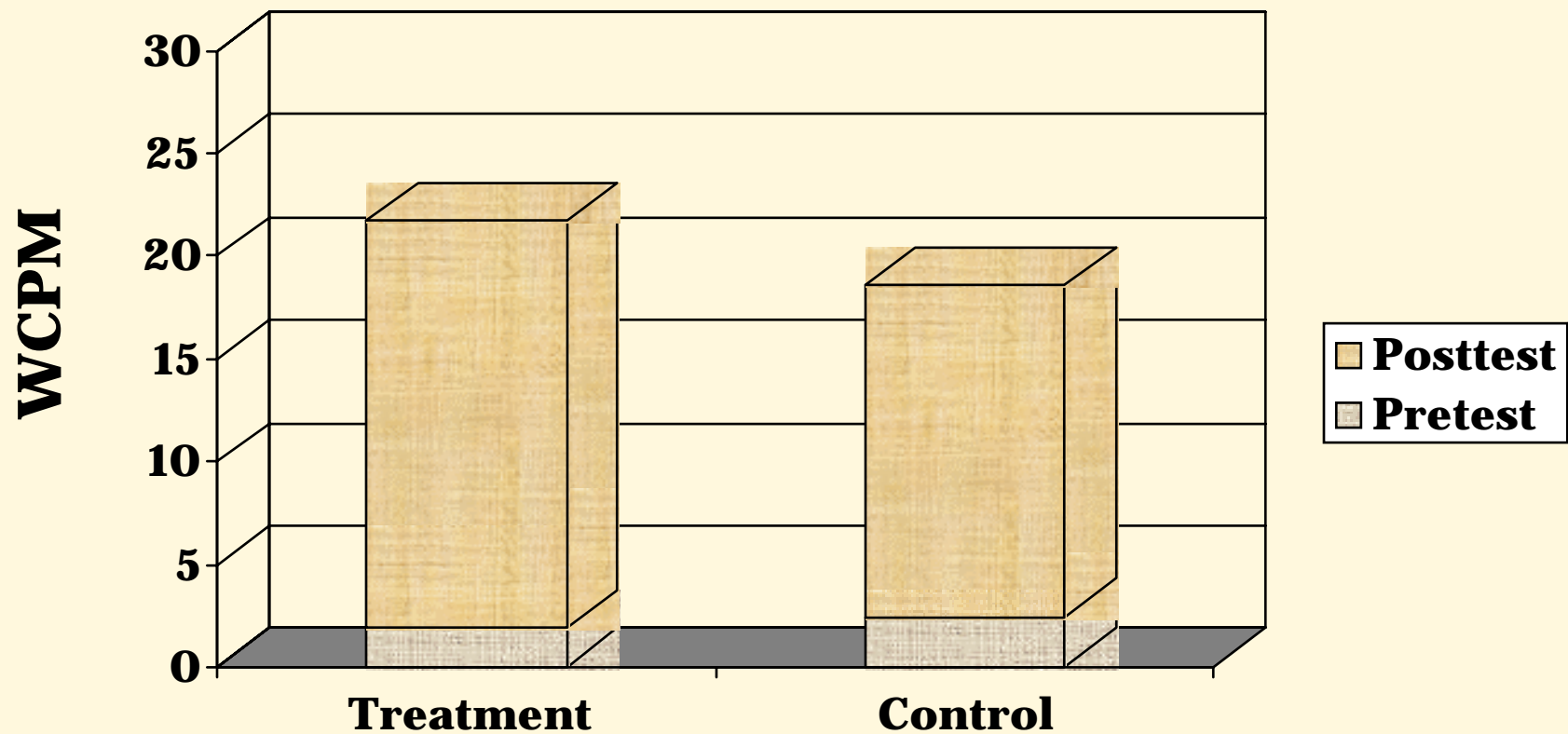


$$d = +.43$$

English DIBELS—Oral Reading Fluency WCPM: Pretest (BOY)

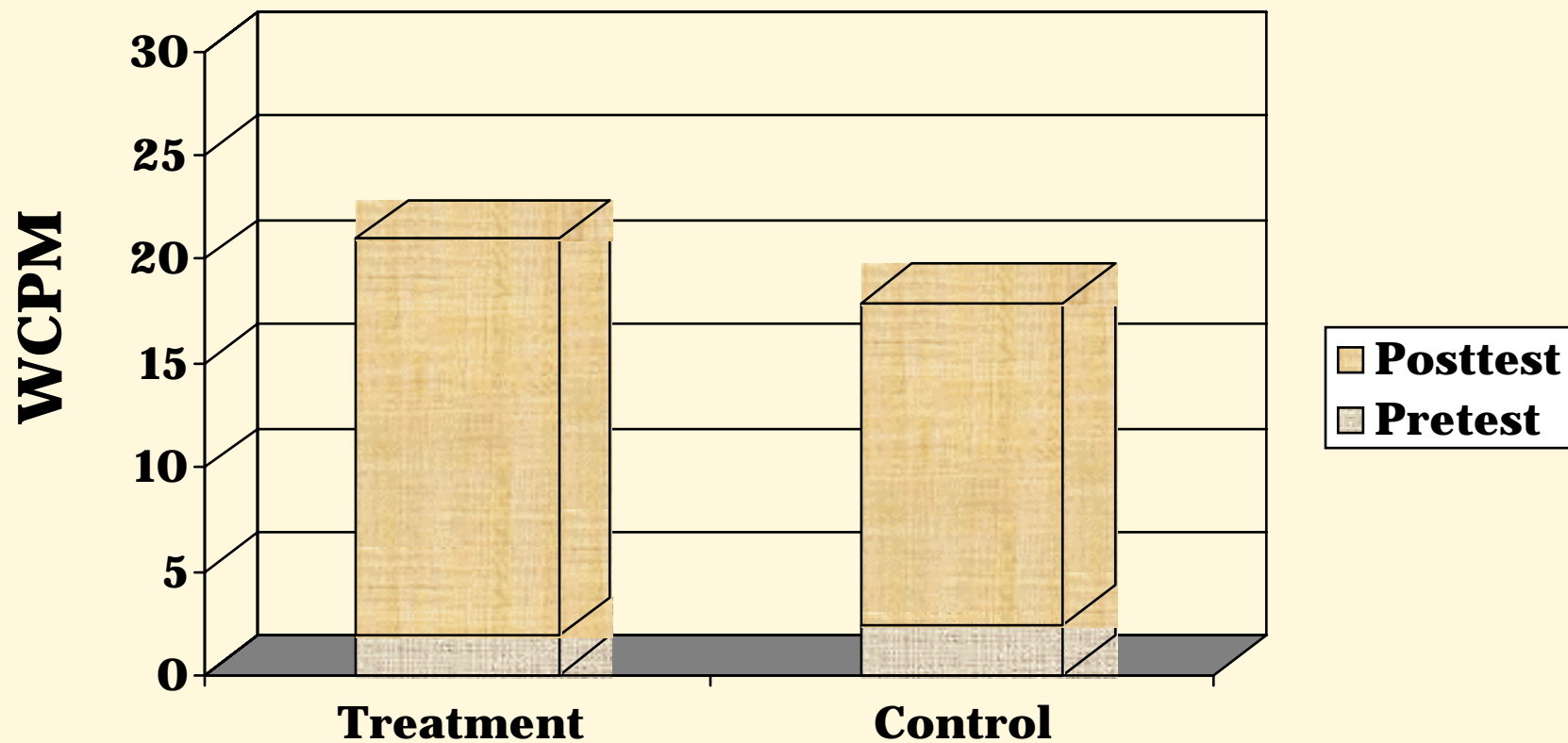


English DIBELS—Oral Reading Fluency: Posttest (BOY)



$d=+.16$

English DIBELS—Oral Reading Fluency: Posttest (EOY)



$d = +.18$

Effect Sizes for English Intervention

English Measure	Effect Size
Letter Name Identification	+.59
Rapid Letter Naming	+.88
Letter Sound Identification	+1.01
PA Composite	+1.24
Oral Language Composite	+.43
Word Attack	+1.09
Passage Comprehension	+1.08
DIBELS ORF (EOY)	+.18

Standard Score Points Gained Per Hour of Intervention

Nine Studies conducted with English Intervention
(Vaughn & Linan-Thompson, 2003)

	Word Attack	Passage Comprehension
English Intervention (9 Studies)	.23-.47	.05-.35
Spanish Intervention (Proáctica)	.75	.47
English Intervention (Proactive)	.66	.34

Response to the Intervention

- Students were placed into one of three groups according to their standard scores
 - Standard score of less than 85 on Word Attack or Passage Comprehension
 - Standard score between 85 and 95 on Word Attack or Passage Comprehension (with no scores below 85)
 - Standard score 96 or above on WA and PC

Students were assessed at the end of First Grade and the End of Second Grade.

Spanish Intervention Study

	End of Grade 1		M, SD	End of Grade 2	
	T	C	End of Grade 1 Oral Language Composite	T	C
SS below 85 on WA or PC	1/31 3%	10/33 30%	T 91 (--) no range C 73.5 (17.5) range 46-100	0/22 0%	2/24 8%
SS between 85-95 on WC or PC with no scores below 85	5/31 16%	4/33 12%	T 79.2 (15.1) range 53-90 C 83.0 (20.1) range 58-103	7/22 32%	9/24 38%
SS above 95 on WA AND PC	25/31 81%	19/33 58%	T 89.5 (14.2) range 61-112 C 86.6 (15.8) range 57-124	15/22 68%	13/24 54%

Spanish Intervention Study

SS below 85 on WA or PC

- Of the 10 Controls in this group at G1
 - 1 remained in the group at G2
 - 2 moved to the 85-95 group at G2
 - 2 moved to the above 95 group at G2
 - 5 did not have G2 data

The one Treatment in this group did not have G2 data.

Spanish Intervention Study

SS between 85-95 on WA or PC, with no scores below 85

- Of the 4 Controls in this group at G1
 - 2 remained in the group at G2
 - 2 moved to the above 95 group at G2
- Of the 5 Treatments in this group at G1
 - 2 remained in the group at G2
 - 3 moved to the above 95 group at G2

Spanish Intervention Study

SS above 95 on WA and PC

- Of the 19 Controls in this group at G1
 - 9 remained in the group at G2
 - 1 moved to the below 85 group at G2
 - 5 moved to the 85-95 group at G2
 - 4 did not have data at G2
- Of the 25 Treatments in this group at G1
 - 13 remained in the group at G2
 - 5 moved to the 85-95 group at G2
 - 7 did not have data at G2

English Intervention Study

	End of Grade 1		M, SD	End of Grade 2	
	T	C	End of Grade 1 Oral Language Composite	T	C
SS below 85 on WA or PC	2/22 9%	10/17 59%	T 65.5 (24.8) range 48-83 C 56.7 (20.2) range 12-84	1/18 6%	6/11 55%
SS between 85- 95 on WC or PC with no scores below 85	6/22 27%	4/17 24%	T 65.7 (26.4) range 26-93 C 65.25 (8.9) range 57-76	8/18 44%	4/11 36%
SS above 95 on WA AND PC	14/22 64%	3/17 18%	T 70.9 (16.2) range 34-99 C 73.7 (7.0) range 67-81	9/18 50%	1/11 9%

English Intervention Study

SS below 85 on WA or PC

- Of the 10 Controls in this group at G1
 - 3 remained in the group at G2
 - 1 moved to the 85-95 group at G2
 - 6 did not have G2 data
- Of the 2 Treatments in this group at G1
 - 1 remained in the group at G2
 - 1 did not have G2 data

English Intervention Study

SS between 85-95 on WA or PC, with no scores below 85

- Of the 4 Controls in this group at G1
 - 1 remained in the group at G2
 - 2 moved to the below 85 group at G2
 - 1 did not have G2 data
- Of the 6 Treatments in this group at G1
 - 3 remained in the group at G2
 - 2 moved to the above 95 group at G2
 - 1 did not have G2 data

English Intervention Study

SS above 95 on WA and PC

- Of the 3 Controls in this group at G1
 - 1 remained in the group at G2
 - 2 did not have data at G2

- Of the 14 Treatments in this group at G1
 - 7 remained in the group at G2
 - 5 moved to the 85-95 group at G2
 - 2 did not have data at G2