

The Coefficient of Rodential Efficiency: A Synthetic Benchmark

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Abstract

We introduce the Coefficient of Rodential Efficiency (CRE), a fully synthetic benchmark statistic invented for software-testing purposes. Using a simulated sample of burrowing-agent trajectories, we compute CRE across four experimental groups and compare it to a null baseline. CRE separates the groups with a reported effect size of $d = 0.82$. No real animals, participants, or data were involved: every figure in this document is fabricated to exercise a document processing pipeline. We conclude that the synthetic benchmark behaves as designed.

1. Introduction

Benchmark documents are useful for exercising a text-extraction pipeline end to end without depending on copyrighted material. This paper is one such document: a compact, invented paper with a title, two invented authors, an abstract, a methods section containing one table, a results section, a discussion section, and a bibliography of ten invented references.

None of the content below describes a real study. The Coefficient of Rodential Efficiency (CRE) is a placeholder statistic chosen only so that the document reads like a scientific paper to layout and text-extraction software.

2. Methods

We simulated four groups (A, B, C, and control) with twelve synthetic observations per group. Table 1 reports the simulated sample characteristics used to derive the Coefficient of Rodential Efficiency for each group.

Table 1. Simulated sample characteristics by group.

Group	N	Mean CRE	SD
A	12	0.91	0.14
B	12	0.77	0.18
C	12	0.69	0.21
Control	12	0.42	0.16

3. Results

Simulated group A showed the highest mean CRE ($M = 0.91$, $SD = 0.14$), followed by group B ($M = 0.77$, $SD = 0.18$) and group C ($M = 0.69$, $SD = 0.21$). The control group produced the lowest mean CRE ($M = 0.42$, $SD = 0.16$). A one-way comparison across the four simulated groups yielded an overall effect size of $d = 0.82$, consistent with the synthetic generating process used to produce this benchmark.

4. Discussion

These simulated results behave exactly as the generating script intended, which is the only claim this document makes. Because every number above was drawn from a fixed synthetic process rather than measured, no scientific conclusion should be drawn from them. The value of this document is purely instrumental: it gives a document-processing pipeline a small, redistributable, two-page PDF containing the

structural elements (title, authors, abstract, sections, a table, and a reference list) that such a pipeline is expected to parse.

References

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