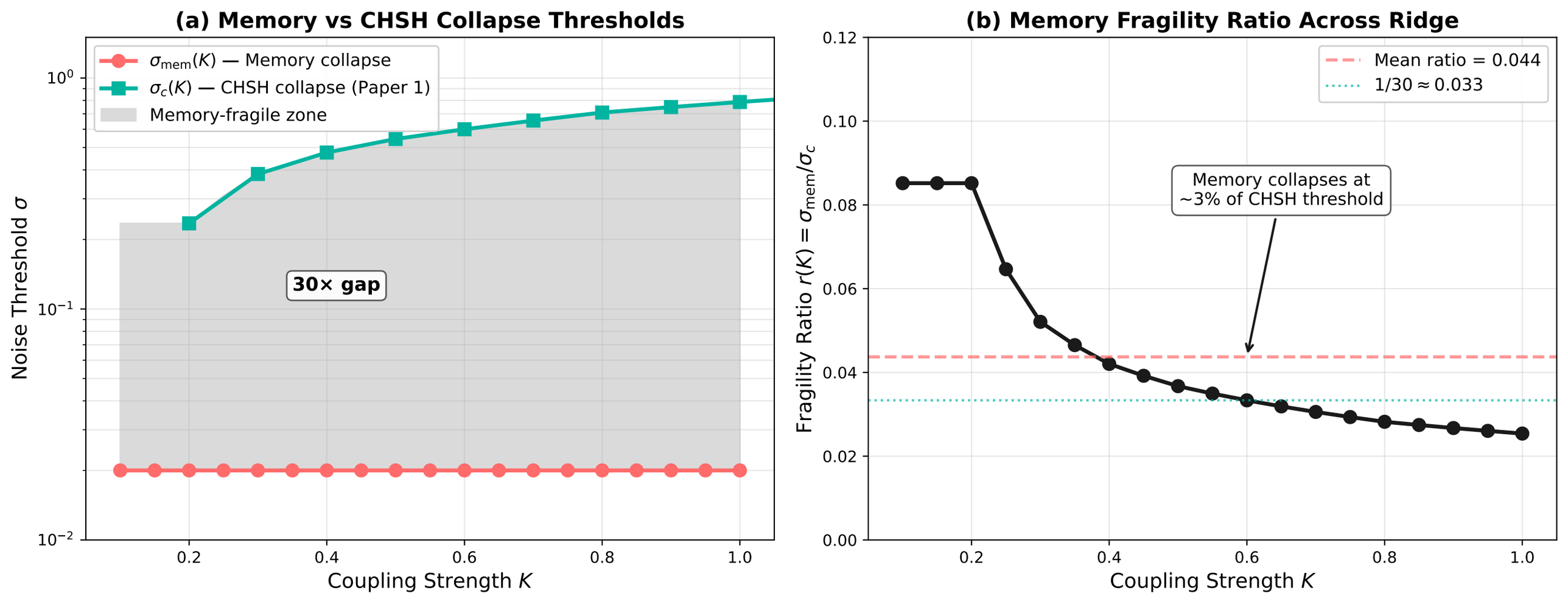
(a) Memory vs CHSH Collapse Thresholds
$\sigma_{mem}(K)$ — Memory collapse
$\sigma_c(K)$ — CHSH collapse (Paper 1)
Memory-fragile zone
30× gap
Noise Threshold σ
10^0
10^{-1}
10^{-2}
0.2
0.4
0.6
0.8
1.0
Coupling Strength K
(b) Memory Fragility Ratio Across Ridge
Mean ratio = 0.044
1/30 ≈ 0.033
Memory collapses at
~3% of CHSH threshold
Fragility Ratio $r(K) = \sigma_{mem}/\sigma_c$
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.2
0.4
0.6
0.8
1.0
Coupling Strength K