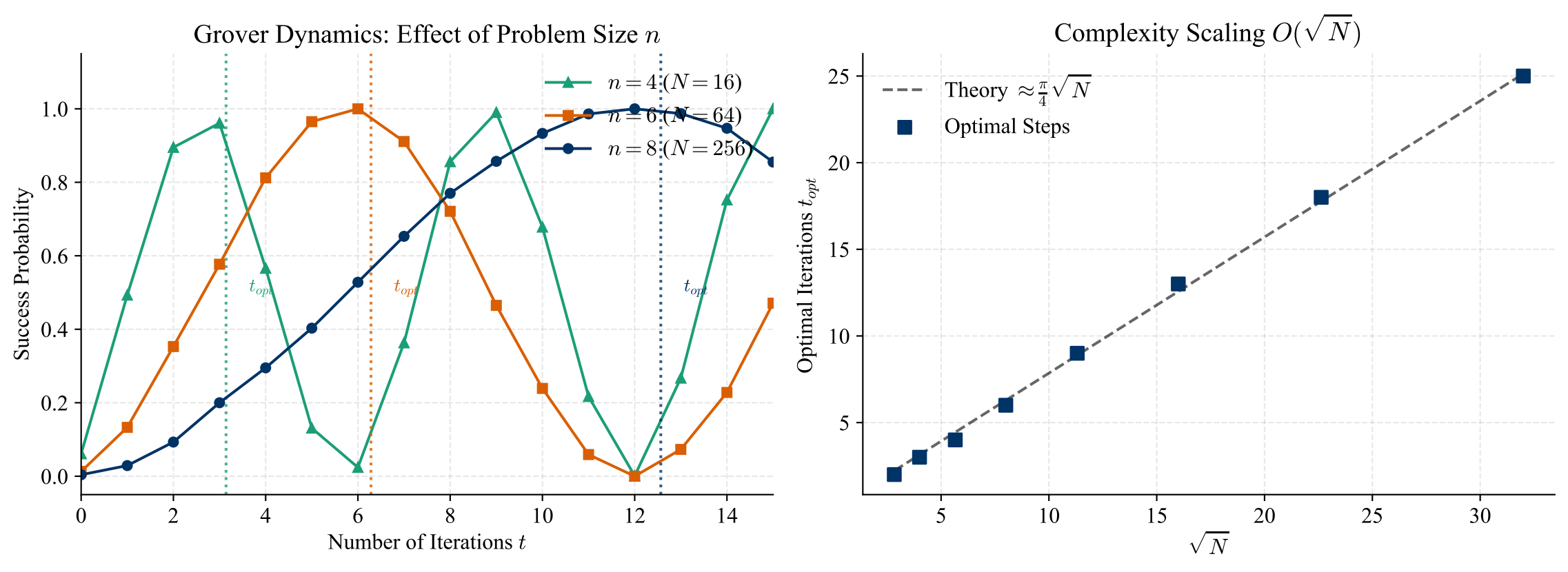
Grover Dynamics: Effect of Problem Size n
Success Probability
Number of Iterations t
$n = 4$ $(N = 16)$
$n = 6$ $(N = 64)$
$n = 8$ $(N = 256)$
t_{opt}
t_{opt}
t_{opt}
0.0
0.2
0.4
0.6
0.8
1.0
0
2
4
6
8
10
12
14
Complexity Scaling $O(\sqrt{N})$
Optimal Iterations t_{opt}
$\sqrt{N}$
Theory $\approx \frac{\pi}{4}\sqrt{N}$
Optimal Steps
5
10
15
20
25
30