

Figure 1: Adding one spy to the 6m-vs-6m environment in SMAC. (a) The allied win rate. (b) The allied deaths. To be noted, it includes the deaths of spies. (c) The average health of spies. (d) The average cost of spies.

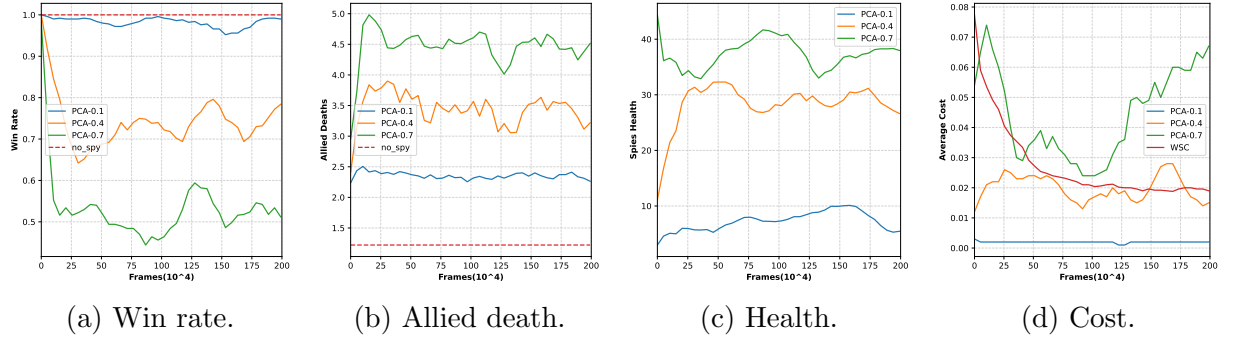


Figure 2: Adding two spies to the 6m-vs-6m environment in SMAC. The definition of subfigures corresponds to the subfigures in Fig.1, but with a different number of spies.

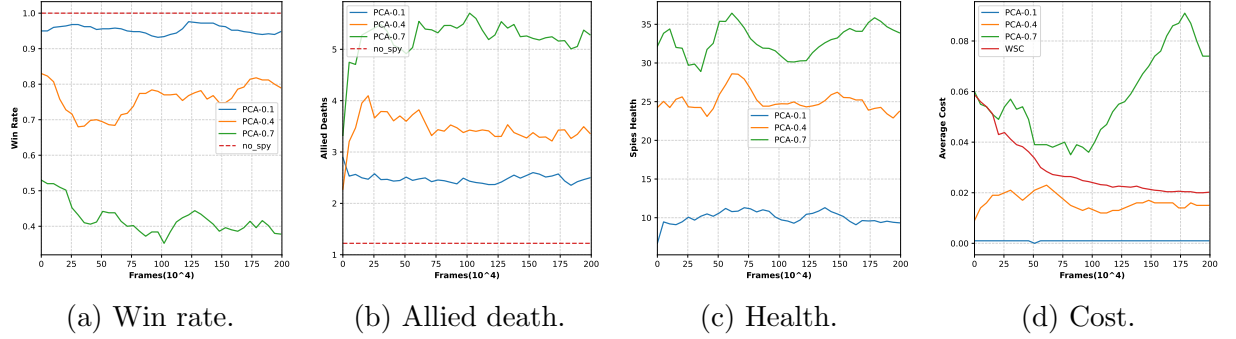
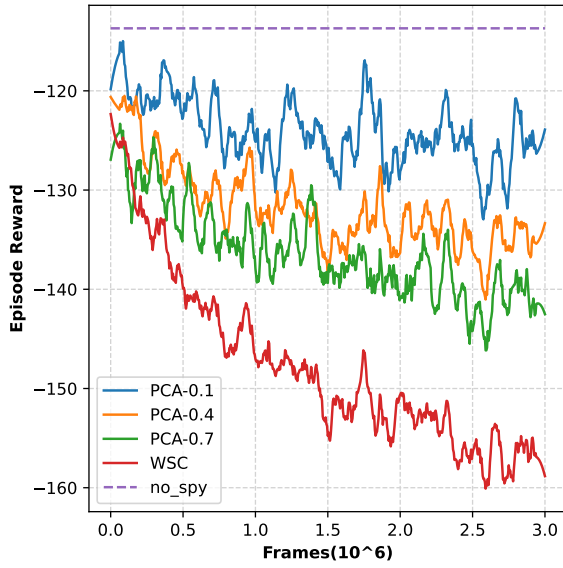
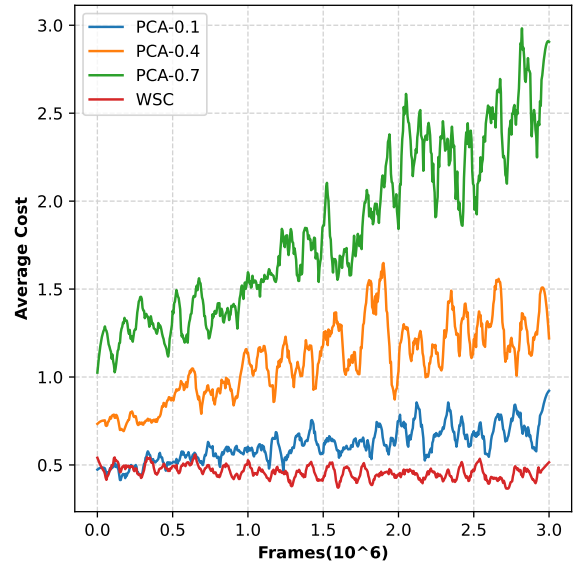


Figure 3: Adding two spies to the 6m-vs-6m environment in SMAC. The definition of subfigures corresponds to the subfigures in Fig.1, but with a different number of spies.



(a) Episode reward.



(b) Cost.

Figure 4: Adding one spy to the simple\_spread environment in MPE. The simple\_spread environment has 3 agents, 3 landmarks. At a high level, agents must learn to cover all the landmarks while avoiding collisions. In this task, well-trained spies can reduce the rewards of victim agents by colliding and blocking.