

1 We wish to thank all of the reviewers for their insightful comments and suggestions. Please find below our detailed
2 responses to different comments made by each of the reviewers.

3 **Reviewer 1**

4 We thank the reviewer for the positive assessment of our paper!

5 **Reviewer 2**

6 We thank the reviewer for their helpful comments about highlighting the key insights of our analysis and implications
7 of our results. We will revise our discussion accordingly both in the introduction and in the conclusion of the paper.
8 In short, our approach shows that there is a strong connection between the follower's ability to optimally deceive
9 the leader and the leader's maximin utility. In particular, by exploiting the information asymmetry in the game, the
10 follower can induce any SSE as long as the leader is guaranteed to obtain his maximin utility. This shows that there is
11 an inherently high risk in learning to commit optimally in a Stackelberg game. In the worst case, the deceptive behavior
12 of the follower may essentially void the learning attempt, which means that the leader has no useful information to
13 improve his utility.

14 Regarding potential experimental analysis: Indeed, experiments would be a good way to showcase the utility gain
15 of the follower. Please observe that Example 2.2 already shows a rather simple instance where the utility gain of the
16 follower, as well as the utility loss of the leader, can be arbitrarily large. Nevertheless, empirical analysis is definitely an
17 interesting direction to study the *average* utility gain of the follower, as well as the average loss of the leader, using both
18 synthetic and real world data. The utility loss of the leader is also a very interesting theoretical question, which we
19 have mentioned in the conclusion. Considering the density of the paper and its focus on the already non-trivial task of
20 finding the optimal deceiving strategy of the follower, we believe that these are excellent questions for future work.

21 We also thank the reviewer for the suggestion about the broader impact statement. We will make the requested
22 adjustments!

23 **Reviewer 3**

24 The reviewer is right that learning the optimal strategy based on *best-response queries* may require exponentially many
25 follower responses in the worst case; this result is due to Peng et al. [36]. However, please note that this is not always
26 the case. In particular, Peng et al. have showed that in certain circumstances, such as when the number of actions n or
27 m is small, or when the smallest feasible region is small (as in the work of Letchford et al. [30]), only a polynomial
28 number of queries is required by the learning algorithms. The key assumption adopted in this paper as well as a series of
29 other previous papers (i.e., [3, 6, 30, 39]) is that the cost of learning can be safely ignored because the game is expected
30 to be repeated sufficiently many times; hence, the learned optimal strategy is not used just in one single-shot game.

31 Most importantly, our results also apply to learning based on *payoff queries*, which can be done very efficiently. In
32 fact, a remarkable aspect of our results is that the problem of optimally deceiving the leader to maximize the utility of
33 the follower turns out to be easily solvable, *no matter* what learning algorithm, or what type of queries, is used by the
34 leader. We believe that the problem we study is also a fundamental theoretical question in Stackelberg games, i.e., how
35 a follower can optimally disguise his payoffs in the presence of information asymmetry, which is interesting in its own
36 right.

37 We will extend the discussion of the related work to include cases where learning based on various types of queries can
38 be done efficiently. We will also add a more crisp motivation about our modeling assumptions, as well as intuitions
39 about our techniques and the implications of our results (as was also requested by reviewer 2).

40 **Reviewer 4**

41 It is true that the discussion of polytopal BR inducibility could easily have been omitted from the paper. We decided
42 to include it in an attempt to ease the transition from best-response inducibility to payoff inducibility, and introduce
43 useful geometric intuition for our more involved results. In a certain sense, it serves as a "warm up" for the subsequent
44 sections that are more technical. In our revisions we will make this progression and intuition more clear.