The Paradox of Misaligned Profiling:
Theory and Experimental Evidence

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Instructions

- **Rounds and Matching:** The experiment consists of a number of rounds. Note: You will be matched with the same person in all rounds.
- **Interdependence:** Your earnings are determined by the decisions that you and the other person make.
- **Roles:** In each pair of people, one person will be given the role of "attacker" and the other will be given the role of "defender." You role will be (attacker or defender) in all rounds.
- **Locations:** There are 2 locations that will be designated as: L1 and L2. An attack can be targeted to either of these locations, and a defense can be augmented at either of these locations.
- **Attack Success Probabilities:** An attack will always fail at a site that is defended. An attack at an undefended site may or may not succeed, and the probability of attack success at undefended sites will depend on the site, as explained later.

Instructions (page 2)

Location:	L1	L2
Attacker Gain from Successful Attack:	$1.00	$1.00
Defender Loss from Successful Attack:	$1.00	$1.00
Position Your Asset	● L1	● L2

- **Attacker Gains**: If an attack is successful at a location, the attacker earns an amount of money shown in the Attacker Gain row of the table, for that location.
- **Defender Losses**: A successful attack at any location results in a loss to the defender, as shown in the Defender Loss row of the table, for that location.
- **Available Assets**: Each attacker has 1 asset to allocate (1 attack), and each defender has 1 asset to allocate (1 defense).

Instructions (page 3)

- **Attack Outcomes:** If a site is defended, an attack at that site will fail. The chances of a successful attack at an undefended site depend on the site, as shown in the table below, which will be reproduced for you when you submit your decision.

Location:	L1	L2
Probability of Attack Success at a Defended Site:	**0**	**0**
Probability of Attack Success at an Undefended Site:	**0.67**	**0.33**

- **Random Outcome Determination**: Consider an attack on site L2. If this site is defended, the attack will fail. If this site is undefended, the probability of attack success attack at that site is 0.33. You can think of this process as spinning a Roulette wheel with stops labeled 1, 2, ... 100 and the outcome is a success if the wheel stops on a number that is less than or equal to 33, so a probability of 0.33 corresponds to 33 chances out of 100 of attack success.
- **View Failed Attacks:** After all decisions are made and confirmed, the defender will always be able to see where an attack occurred, even if it fails.
- **Visibility of Defense Assets:** The attacker will NOT be able to see where a particular defense asset is located prior to making an attack decision.
- **Cause of Failed Attack:** At the end of each round the attacker's results table will indicate whether a site was defended or not. Thus if an attack does fail, the attacker will be able to see whether it failed because the site was defended or because the attack at an undefended site failed due to random causes.
- **Private Incomes**: In addition to the earnings, losses, and costs that result from asset allocations and attack outcomes, each person will receive a fixed income in each round. Attackers and defenders may have different private incomes, which are not public information. As a (Attacker or Defender), your income will be: **$*.*** per round.

Instructions (summary page)

- There will be one or more rounds in this part of the experiment, and the final round will not be announced in advance.
- You will be matched with the **same** person in all rounds.
- In each group, there will be **1 attacker** and **1 defender**.
- Your role is that of ******
- Defenders each have 1 asset to allocate across the 2 sites, and attackers each have 1 asset to allocate to one of the 2 sites.
- If a site is defended, an attack at that site will fail. The chances of a successful attack at an undefended site depend on the site, as shown in the table below.
- A successful attack at a site reduces the earnings for the defender, as indicated by the Defender Loss for that site.
- A successful attack at a site increases the earnings for the attacker, as indicated by the Attacker Gain for that site.
- The defender will always be able to see where an attack occurred in previous rounds, even if it fails.
- The attacker will not be able to see where a defense asset is located (before the attack decision is made).
- In addition, your payoff will be raised by an amount **$*.*** in each round, which is your private income, not observed by the others with a different role.

- **Special Earnings Announcement:** Your cash earnings will be **50%** of your total earnings at the end of the experiment.