**Project Title: Investigating the Impact of Bluffing Strategies on Individual Performance in Social Deception Games**

**Introduction:**

Bluffing is a common strategy employed in social deception games, where players attempt to mislead opponents about their intentions or the strength of their hand. This project aims to explore the role of bluffing in competitive gaming contexts and its influence on individual performance and game outcomes.

**Psychological Concept: Bluffing**

Bluffing refers to the deliberate deception used by players to mislead opponents and gain a strategic advantage in competitive settings. It involves presenting false information or concealing one's true intentions to manipulate the perceptions and decisions of other players

**Research Question:**

Do players who employ bluffing strategies in social deception games outperform those who do not bluff in terms of individual performance and game outcomes?

**Hypothesis:**

Players who effectively utilize bluffing strategies will achieve higher individual scores and contribute to greater success in social deception games compared to those who bluff less frequently or less effectively.

**Literature Review:**

Analysis of Bluffing Behavior in Human-Humanoid Poker Game

Kim, M.-G., & Suzuki, K. (1970b, January 1). *Analysis of bluffing behavior in human-humanoid poker game*. SpringerLink. https://link.springer.com/chapter/10.1007/978-3-642-25504-5\_19#citeas

The paper "Analysis of Bluffing Behavior in Human-Humanoid Poker Game" provides a detailed examination of bluffing behavior in poker, focusing on how participants adjust their bluffing decisions based on card hand strength and the differences between human-human and human-robot game interactions. By analyzing nonverbal responses and betting decisions, the study offers insights into the strategic manipulation and deception tactics employed in competitive gameplay. Additionally, the study's regression models for predicting card hand strength based on observable behaviors provide a framework for understanding the underlying psychology of bluffing decisions, which can inform the development of hypotheses and research questions for my project. Overall, this paper serves as a valuable reference for investigating bluffing behavior and its implications for decision-making dynamics in strategic game environments.

Bluffing as a Rational Strategy in a Simple Poker-Like Game Model

Guazzini, A., & Vilone, D. (2013, June 4). *Bluffing as a rational strategy in a simple poker-like game model*. Journal of Complex Systems. https://www.hindawi.com/journals/jcs/2013/390454/

The paper "Bluffing as a Rational Strategy in a Simple Poker-Like Game Model" offers insights into the emergence and effectiveness of bluffing strategies in competitive gameplay. Through a cognitive model of a poker-like game, the study demonstrates how agents develop bluffing strategies using adaptive learning algorithms, highlighting the rationality and evolutionary stability of bluffing as a strategy. The findings suggest that players who bluff more often tend to emerge as winners, underscoring the significance of bluffing in strategic decision-making. By analyzing bluffing dynamics and their impact on game outcomes, the research contributes to our understanding of decision-making processes and strategic behavior in competitive settings. In the context of social deception games, this paper provides valuable insights into the role of bluffing as a strategic behavior, informing the design of games to better capture bluffing dynamics and strategic manipulation among players. Additionally, the analysis of bluffing tendencies offers a basis for formulating hypotheses and research questions related to decision-making and strategic deception in competitive gameplay, making this paper a foundational reference for investigating bluffing behavior and its implications.

**Methodological Plan:**

Pre-Survey

Game result record

Post-Survey

**Game Observation Variables:**

Independent Variables: Counting the frequency of bluffing for each player during the game, I’ll know each player’s card, so I can define the player are using bluffing. And effectiveness of bluffing strategies and each player’s bluffing performance rate from 1-10 from my perspective.

Dependent Variables: Individual player scores, success of bluffing attempts, overall game outcomes.

**Pre-Survey Questionnaire:**

https://forms.gle/iSEmFbJiFaZ4nrcd6

**Post-Game Survey**

https://forms.gle/Astu2YZh4zMczxHk7

**Convenience Sampling**: Participants will be recruited based on their availability and interest in participating in the study.

**Participants:**

P1 23 female

P2 23 female

P3 23 female

P4 22 male

P5 21 male

P6 23 male

P7 22 male

P8 26 female

P19 27 male

P10 23 male

P11 22 male

P12 23 male

**Game Process**

1.All player get 8 card in their hand

2. Player A will share a murder story

3 All player include player A need to determine what method and scheme are involve in this story

4.Player A choose a Method and Schema as a main card and side card

5.At the same time, the remaining players need to discard 4 cards that you think are irrelevant to the story just told, leaving 4 cards that you think are the most relevant.

6.Player A declares the main and side cards he has just chosen.

7. All players predict how many times they will win in the next four rounds.

8.Four player take one card together

9.Suicide && Accidental Death > Main card > Side card > Other Card

10.Winner in this round get one point, after 4 rounds, successful predict win times get 3 points.

**Story:**

The Enigmatic Disappearance of the Reclusive Author:

In a secluded mansion nestled in the woods, a reclusive author vanishes without a trace on the eve of her book launch. Her lifeless body is discovered floating in the murky waters of the estate's pond, surrounded by the remnants of torn manuscripts and broken quills. Strange symbols and cryptic messages are discovered scrawled across the walls of her study, hinting at a secret society and a hidden manuscript. Players must unravel the mystery, delving into themes of secrecy, hidden agendas, and clandestine organizations.

Main Card: Chamber

Side Card: Borrowed Animal

The Sinister Slaying in the Foggy Alley:

In the dimly lit streets of Victorian London, the body of a prominent businessman, Mr. Reginald, is discovered, brutally stabbed, in a foggy alley. With the haunting echo of footsteps fading into the mist, detectives must navigate the labyrinth of the city’s underworld to unmask the killer.

Main Card: Sharp Weapons

Side Card: Homicide at a Distance

The Tragic Fall of the Illustrious Acrobat:

Background: Alessandro, the star acrobat of the renowned circus troupe, met his demise during a daring high-wire act. While performing his signature somersault, tragedy struck as the safety harness failed, sending him plummeting to the ground in front of a horrified audience.

Main Card: Machine

Side Card: Accidental Death

The Enigmatic Poisoning at the Annual Garden Party:

Background: Lady Penelope, the esteemed hostess of the annual Garden Society gala, succumbed to a sudden and mysterious illness after sipping from her champagne flute. As the festivities came to a halt, suspicions arose among the guests gathered in the opulent garden setting.

Main Card: Asphyxiation