

Social Psychology in the Natural World

Social Psychology · Answer Key · 16 Questions

1. In African wild dog (*Lycaon pictus*) packs, the highly coordinated hunting strategy, which often involves a leader initiating the chase and others following in a specific formation, best exemplifies which social psychological concept?

- A) Social loafing during group tasks
- B) Conformity to majority opinion
- C) Reciprocal altruism and kin selection in cooperative hunting**
- D) Groupthink leading to suboptimal decisions

2. The phenomenon of 'mobbing' in birds, where smaller birds harass and drive away larger predators like owls or hawks, demonstrates a collective defense mechanism. This behavior is a real-world manifestation of:

- A) Bystander effect in predator deterrence
- B) Group efficacy and shared threat perception**
- C) Social facilitation of individual territorial defense
- D) Cognitive dissonance reduction in prey animals

3. Meerkat (*Suricata suricatta*) sentinels, who stand on hind legs to scan for predators while others forage, exhibit a behavior that can be understood through social exchange theory. The sentinel's risk is offset by:

- A) Increased individual foraging success
- B) Reduced immediate threat due to group vigilance
- C) Future reciprocal guarding by group members**
- D) Dominance displays over lower-ranking individuals

4. The synchronized firefly displays (e.g., *Photinus* spp.) observed in certain regions, where males flash in unison to attract females, highlight the role of collective signal amplification. This synchronization can be viewed as a form of:

- A) Disruptive selection based on individual flash patterns
- B) Cooperative signaling for mate attraction and predator confusion**
- C) A demonstration of a learned mating ritual
- D) Competitive exclusion through rapid flashing

5. Ant colonies (Formicidae) often exhibit complex division of labor, with specialized roles for foraging, defense, and reproduction. This social organization is a prime example of:

- A) Individualistic competition for resources
- B) Emergent properties of collective intelligence and altruism**
- C) Random assignment of tasks based on immediate need
- D) A purely instinctual, non-social behavioral pattern

6. The establishment of 'communal roosts' in many bird species, such as starlings (*Sturnus vulgaris*), where thousands gather to spend the night, is often theorized to provide advantages related to:

- A) Increased competition for limited nesting sites
- B) Enhanced predator detection and deterrence through sheer numbers**
- C) Individual learning of complex song patterns
- D) Facilitation of solitary foraging strategies

7. The 'Tragedy of the Commons' is a theoretical framework explaining the depletion of shared resources. In ecological contexts, this can be observed in:

- A) Sustainable harvesting practices of migratory birds
- B) Overfishing in international waters leading to stock collapse**
- C) Secluded breeding grounds for endangered amphibians
- D) Careful management of individual forest plots

8. The grooming behavior (allogrooming) in primates, such as chimpanzees (*Pan troglodytes*), serves not only hygienic purposes but also plays a critical role in:

- A) Aggressive territorial defense
- B) Reinforcing social bonds and alliances**
- C) Random mate selection
- D) Individual stress reduction independent of social context

9. The establishment of foraging trails by leafcutter ants (*Atta* spp.) and their coordinated transport of materials back to the nest are classic examples of:

- A) Individual territorial marking
- B) Complex collective problem-solving and communication**
- C) Random movement patterns for resource discovery
- D) Competition between individual ants for transport duties

10. The phenomenon of 'copying' feeding strategies observed in some herbivorous insects, where individuals learn to exploit a particular plant resource by observing others, is analogous to:

- A) Independent discovery of novel food sources
- B) Social learning and cultural transmission of foraging techniques**
- C) Random mutation influencing dietary preferences
- D) Aggressive competition for the same food item

11. In whale pods (e.g., *Orcinus orca*), distinct 'cultures' of hunting techniques and vocalizations have been documented across different populations. This variation suggests:

- A) Genetically predetermined, uniform behaviors
- B) Learned behaviors passed down through social transmission**
- C) Random environmental adaptations
- D) Individualistic innovation without social influence

12. The cooperative nest building and defense observed in some bird species like anis (*Crotophaga* spp.), where multiple pairs share a single nest, highlights:

- A) Individual territorial expansion
- B) Shared responsibility and collective resource management**
- C) Random aggregation for protection
- D) Hierarchical dominance structures dictating nest ownership

13. The 'alarm calls' given by prairie dogs (*Cynomys* spp.) when predators are detected, which vary in complexity and can convey information about the predator type, are a form of:

- A) Interspecies communication with no social benefit
- B) Complex symbolic communication and group vigilance**
- C) Individual distress signals unrelated to group safety
- D) Random vocalizations with no discernible meaning

14. The synchronized egg-laying in some insect species, like periodical cicadas (*Magicicada* spp.), where massive numbers emerge simultaneously, serves as a strategy to:

- A) Increase individual competition for mates
- B) Overwhelm predators through sheer numbers (predator satiation)**
- C) Facilitate solitary development
- D) Promote diverse genetic dispersal

15. The formation of large, migratory flocks in birds like cranes (*Grus* spp.) is often facilitated by social cues and learned flight paths. This collective movement is essential for:

- A) Individual navigation independent of the group
- B) Energy conservation through aerodynamic drafting and enhanced predator detection**
- C) Random dispersal for breeding opportunities
- D) Establishing individual dominance hierarchies during flight

16. In social insects like bees (*Apis mellifera*), the 'waggle dance' is a sophisticated method of communication used to convey information about:

- A) Individual foraging preferences
- B) The location and quality of food sources and water**
- C) Inter-colony territorial disputes
- D) The queen's reproductive status