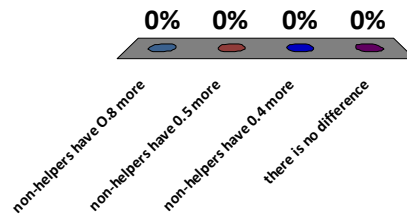


Homework Question 15

The spotted thrasher lives in South America where it occupies scrubby habitats. During the breeding season an adult male and female are often joined by another adult individual who assists the breeding pair. This assistance takes the form of watching for predators, particularly snakes, and attempting to drive them off when they are sighted. Additionally, this individual searches for food and brings it back to the nest and feeds the young. These helpers are almost always males in their first adult year, and they are usually the offspring of one or both of the breeding individuals (the degree of relatedness averages 0.4). All individuals die after their third adult year. If a breeding pair does not have a helper it produces an average of 2.2 offspring while if they have a helper they produce 3.6 offspring. Sometimes the young males go off and attempt to breed in their first adult year instead of helping, if successful, they produce 1.2 young, on average. In their second year and third year they will produce 2.2 young per year. Those males that were helpers for a year succeed, on average, in producing 2.4 offspring in their second year and third year.

What is the difference in direct fitness between helpers and non-helpers?

- A. non-helpers have 1.2 more
- B. non-helpers have 0.8 more
- C. non-helpers have 0.4 more
- D. there is no difference



What is the inclusive fitness of non-helpers?

- A. 5.6
- B. 2.8
- C. 2.96
- D. you can't tell from these data

