**Introduction:**
- Reintroduction programs are aimed at increasing wild giant panda (*Ailuropoda melanoleuca*) populations.
- Selection focuses on age, sex, and health.
- Little regard to behavioral differences.
- 50% of giant panda litters result in twins.
- Siblings influence each other’s development, contributing to long-term differences in behavior.
- Genetics and birth weight have been shown to affect personality.
- Human twins have similar personalities.
- Birth weight shown to affect play behavior in pigs.
- Personality affects survival.
- Boldness shown to affect survival rates in swift foxes.
- Knowledge of behavior development could be useful in early selection for reintroduction programs for endangered species.

**Question:** Does giant panda birth order and birth weight affect behavior?

**Methods:**
- Chengdu Research Base of Giant Panda Breeding, China
- June & July 2016
- Nine one-year-old cubs
  - Four sets of twins and one singleton
- Eight enclosures
  - Six public viewing, two staff accessible only
- Continuous recording; focal sampling
- Thirty minute sessions; recorded 115.2 hours (26.1 hours on average per cub).

**Results:**

**BIRTH ORDER**

![Graph showing birth order comparison](image1)

- Figure 1: Birth order. Significant difference in activity/inactivity levels where first born cubs are more active than second born cubs. Singleton cub not included.

**BIRTH WEIGHT**

![Graph showing birth weight comparison](image2)

- Figure 2: Birth Weight. No significant difference in activity/inactivity levels with regard to birth weight. Singleton cub included.

**Conclusions:**
- Birth order could become useful in candidate selection for reintroduction programs to ensure that more active individuals are being selected.
- No evidence of birth weight influencing activity levels.
- Caveat: Cubs were not the same age at time of study.

**Future Studies**
- Control for:
  - Ages at the start of the study.
  - Maternal and/or paternal genetics influence on cub behavior.
  - Hand-reared vs. parent-reared individuals.
  - Variety of sex in twin sets.