

Early Prediction of Explosive Detection Canine Success

Developmental Windows for Examining Behavior



Early Identification

- Modest reliability due to strong environmental influences throughout development
- Expression of fearfulness in puppies is often indicative of future behavior
- High levels of motivation (arousal while searching, reward/task engagement) tend to remain stable
- Lower levels of performance-related traits are not necessarily predictive and often develop with maturity and experience



Maturation

- Interactions between developmental processes and effects of training/experience may complicate predictive reliability of behavior during adolescence
- Puberty can be a sensitive period for dogs due to hormonal changes and may differentially affect males and females; however, effects are transient



Behavioral Stability

- Young adult behavior (> 12 months) is most predictive of long-term success as developmental processes have begun to stabilize
- Training and experience can mask underlying tendencies, so assessments should aim to uncover inherent predispositions for most accurate prediction of sustained success



What to look for at different ages

- ☑ High levels of arousal (energy and activation) while searching
- ☑ Strong engagement with task while searching
- ☑ Fear of unfamiliar places, moving/novel objects, loud noises

- ☑ Absence of arousal (energy and activation) while searching
- ☑ Excessive arousal while searching/inability to self-regulate (persistent panting, frantic movement)
- ☑ Fear of unfamiliar places, navigating open stairs, moving/novel/noisy objects

