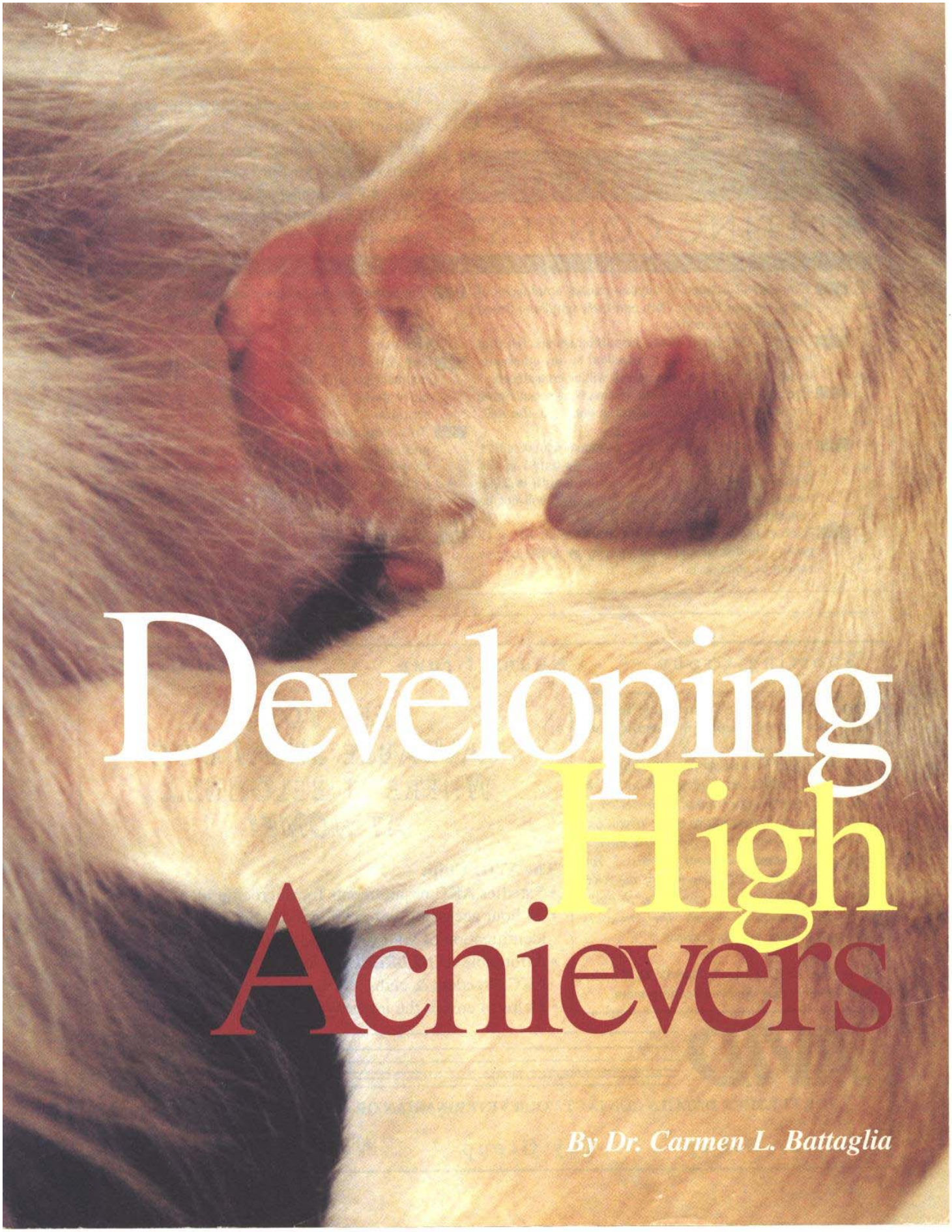
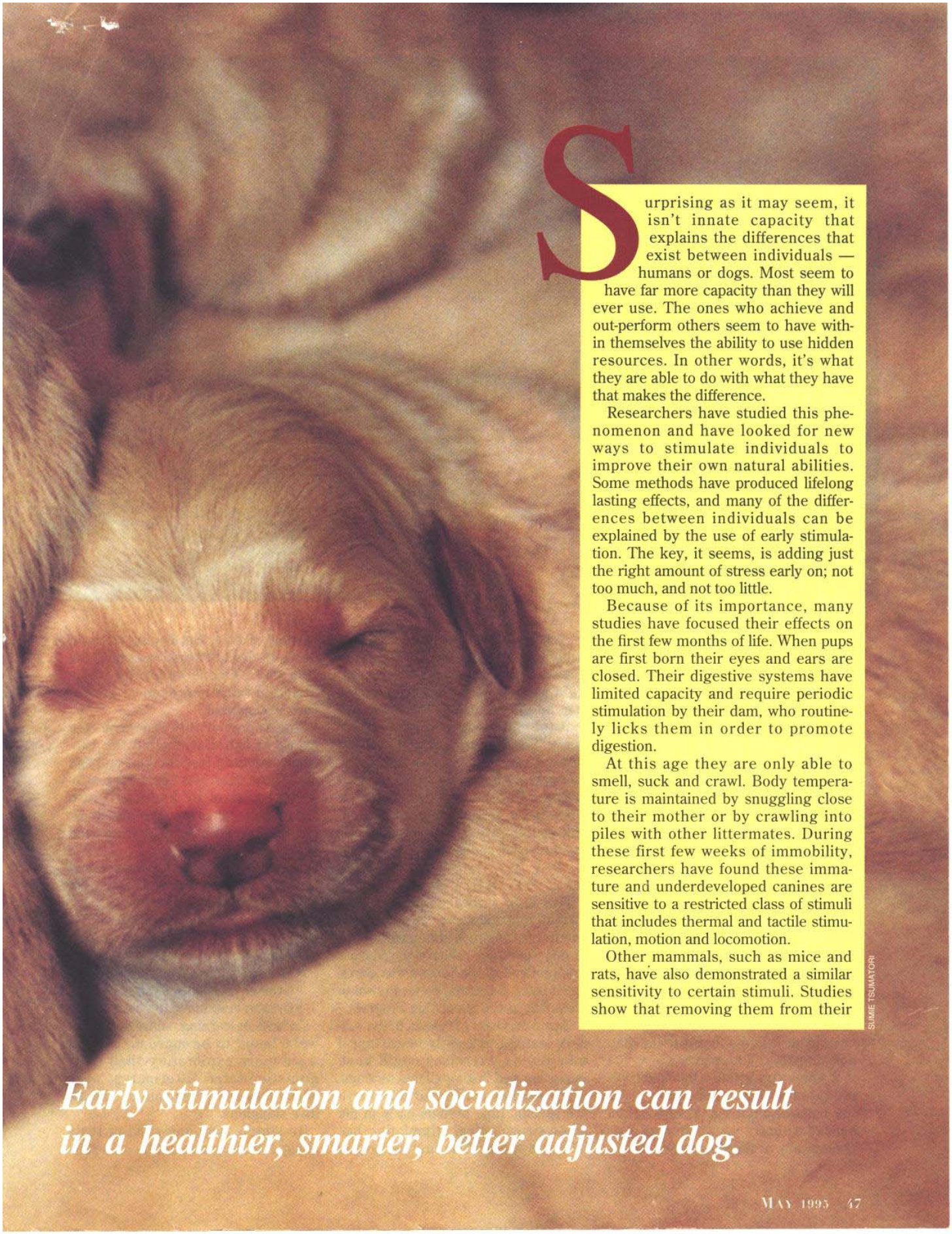


Developing High Achievers

By Dr. Carmen L. Battaglia



Surprising as it may seem, it isn't innate capacity that explains the differences that exist between individuals — humans or dogs. Most seem to have far more capacity than they will ever use. The ones who achieve and out-perform others seem to have within themselves the ability to use hidden resources. In other words, it's what they are able to do with what they have that makes the difference.

Researchers have studied this phenomenon and have looked for new ways to stimulate individuals to improve their own natural abilities. Some methods have produced lifelong lasting effects, and many of the differences between individuals can be explained by the use of early stimulation. The key, it seems, is adding just the right amount of stress early on; not too much, and not too little.

Because of its importance, many studies have focused their effects on the first few months of life. When pups are first born their eyes and ears are closed. Their digestive systems have limited capacity and require periodic stimulation by their dam, who routinely licks them in order to promote digestion.

At this age they are only able to smell, suck and crawl. Body temperature is maintained by snuggling close to their mother or by crawling into piles with other littermates. During these first few weeks of immobility, researchers have found these immature and underdeveloped canines are sensitive to a restricted class of stimuli that includes thermal and tactile stimulation, motion and locomotion.

Other mammals, such as mice and rats, have also demonstrated a similar sensitivity to certain stimuli. Studies show that removing them from their

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Early stimulation and socialization can result in a healthier, smarter, better adjusted dog.

As each animal grows, factors outside itself shape its development as an individual.

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nest for three minutes each day during the first five to 10 days of life causes body temperatures to fall below normal. This mild form of stimulation was sufficient to stimulate their hormonal, adrenal and pituitary systems. When tested later as adults, these same animals were better able to withstand stress than littermates who were not exposed to the same early stimulation exercises.

Other studies involving early stimulation exercises have been performed on both cats and dogs. The electro encephalogram (EEG) has been used to measure the electrical activity in the brain because of its extreme sensitivity to changes in excitement, emotional stress, muscle tension, and changes in oxygen and breathing. EEG measures show that pups and kittens given early stimulation mature at faster rates and perform better in certain problem-solving tests than non-stimulated littermates.

While experiments have not yet produced specific information about the optimal amounts of stimulation needed to make young animals psychologically or physiologically superior, researchers agree that very early stimulation has value. What is also known is that what may be just the right amount of stimulation for one may be too intense for another, and that too much can retard development. The results show that early stimulation exercises can have positive results but must be used with caution. In other words, too much stimulation can cause pathological adversities rather than physical or psychological superiority.

The Military Method

The U.S. military developed a method that still serves as a guide. In an effort to improve the performance of dogs used for military purposes a program called Bio-Sensor was developed. Later, it became better known to the public as the Super Dog Program.

Based on years of research, the military learned that early neurological stimulation exercises could have important and lasting effects on dogs. Their studies confirmed that there are specific time periods early in life when neurological stimulation has optimum results. The first period is a window of time that begins at about the third day of life and lasts until the 16th day. This is believed to be a period of rapid neurological growth and development.

The result of this research is a group of exercises called the Bio-Sensor method (see the box on page 49). These exercises affect the neurological system by kicking it into action earlier than would normally be expected, resulting in an increased capacity.

Five benefits have been observed in dogs that were exposed to the Bio-Sensor stimulation exercises:

- Improved cardiovascular performance;
- Stronger heartbeats;
- More efficient adrenal glands;
- Greater resistance to stress;
- Greater resistance to disease.

In tests of learning, stimulated pups were found to be more active and were more exploratory than their non-stimulated littermates, over which they were dominant in competitive situations.

In simple problem-solving tests using detours in a maze, the non-stim-

ulated pups became extremely stressed, whined a great deal and made many errors. Their stimulated littermates were more calm in the test environment, made fewer errors and gave only an occasional distress signal.

Socialization and Stimulation

As each animal grows and develops, factors outside itself affect how it will be shaped as an individual. Early neurological stimulation is the first stage. The second stage is socialization, and it also has a limited window of opportunity.

When ethologist Konrad Lorenz first wrote about this process in 1935, he talked about imprinting and its importance on the later development of an animal. He differentiated imprinting from conditioning in that imprinting occurs early in life, takes place very rapidly and seems to have lifelong results.

Socialization studies confirm that the critical period for canine socialization is between the fourth and 16th week of age. During this period two things can go wrong. First, insufficient social contact can affect proper emotional development, which can adversely affect the development of a human bond. Second, over-mothering can prevent sufficient exposure to other individuals, places and situations that have an important influence on growth and development. The lack of adequate social stimulation, such as handling, mothering and contact with others, adversely affects social and psychological development.

Most researchers agree that among all species, a lack of adequate socialization generally results in unacceptable behavior and oftentimes produces undesirable aggression, fearfulness, sexual inadequacy and indifference toward partners.

Busy lifestyles with long and tiring schedules often cause pets to be neglected. Left to themselves with only an occasional trip out of the house or off the property, they seldom see other dogs or strangers and generally suffer from poor stimulation and socialization. For many dogs, the side effects of loneliness and boredom set in. The resulting behavior manifests itself in the form of chewing, digging and behavior that is hard to control.

The Bio-Sensor Method

The Bio-Sensor method is a workout that requires handling each puppy individually, once a day, and performing five exercises (the order of the exercises is not important). These five exercises stimulate pups in a way they would not encounter naturally at this early age. Each exercise is performed for three to five seconds.

1. Tactile stimulation: Holding the pup in one hand, the handler gently tickles the pup between the toes on any one foot using a Q-tip. It is not necessary to tickle each foot.

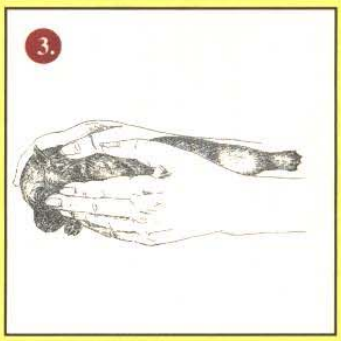
2. Head held erect: Using both hands, the pup is held straight up so that its head is directly above its tail. It should be pointed straight upward.

3. Head pointed down: Holding the pup firmly with both hands, the head is pointed downward so that its head and body are pointing toward the ground.

4. Supine position: Holding the pup so that its back is resting in the palm of both hands, the pup is allowed to either sleep or struggle.

5. Thermal stimulation: Use a damp towel that has been cooled in a refrigerator for five minutes. Place the pup on the towel, feet down. Do not restrain it from moving.

These exercises should not be repeated more than once a day and should not be extended beyond the recommended time for each exercise. Experience shows some pups will resist some of the exercises. If that happens, proceed gently. Try not to over-stress any pup. Over-stimulation of the neurological system can produce negative results.



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It seems clear that small amounts of stimulation, followed by early socialization, can produce beneficial results. The danger seems to be in not knowing what the thresholds are for over- and under-stimulation.

Many improperly socialized puppies develop into older individuals unprepared for adult life, with its challenges and interactions. Attempts to re-socialize them as adults only produce small gains. These failures confirm the notion that the window of opportunity for early neurological and social stimulation is only open once. After it closes, little can be done to overcome the negative effects of too much or too little stimulation.

Lifelong Enrichment

The third and final stage in the process of growth and development is called enrichment. Unlike the first two stages, it has no limited window of opportunity. Enrichment means the positive sum of experiences that have a cumulative effect upon the individual.

Enrichment experiences typically involve exposure to a wide variety of interesting, novel and exciting experiences with regular opportunities to freely investigate, manipulate and interact with them. When measured in later life, the results show that animals reared in an enriched environment tend to be more inquisitive and are better able to perform difficult tasks.

Studies by canine behaviorists John Paul Scott and John L. Fuller show that, when given free choice, non-enriched pups preferred to stay in their kennels. Other littermates that were given only small amounts of outside stimulation between 5 and 8 weeks of age were found to be very inquisitive and very active. When kennel doors were left open the enriched pups would come bounding out, while littermates that were not reared in an enriched environment would remain behind.

The pups that received less stimulation would typically be fearful of unfamiliar objects and generally preferred to withdraw rather than investigate. Even well-bred pups of superior pedigrees would not explore or leave their kennels, and many were difficult to train as adults. These pups acted as if they had become institutionalized, preferring the routine and safe environment of their kennel to the stimulating world outside.

Regular trips to the park, shopping centers and obedience classes are examples of enrichment activities. Chasing and retrieving a ball is often considered enriching because it provides exercise and serves as a reward. While repeated attempts to retrieve a ball provide stimulation, it should not be confused with enrichment exercises. Such playful activities should be used as an exercise or as a reward after returning from a trip, and should not be used as a substitute for trips, outings or obedience classes that provide many opportunities for interaction and investigation.

Because of the risks involved in under-stimulating pups, a conservative approach has been suggested. However, as a guide, it is generally considered prudent to guard against under-stimulation rather than over-stimulation. A conservative approach would be to expose them to other people, toys and other animals regularly.

Without enough stimulation, even well-bred pups of superior pedigrees will typically be fearful.

Handling and touching all parts of their anatomy is also necessary as early as the third day of life. Pups that are handled regularly generally do not become hand-shy as adults.

Both experience and research have demonstrated the beneficial effects of early neurological stimulation, socialization and enrichment. Each has been used to show how significant differences between individual dogs, their trainability, health and potential for individual performance can be realized. The cumulative effects of these stimulations have been well documented and best serve the interests of the owner and the animal.

Carmen Battaglia has written numerous articles and books on canine breeding and genetics. He is past president of the German Shepherd Dog Club of America and is a member of the Atlanta, Congers and Lawrenceville Kennel Clubs. He judges the Herding Group, nine other breeds and Best in Show.