pedigreed cats in the 1960s to closely resemble a wild
cat, but one with an affectionate, stable temperament.
Today's Oci cats are an almost exact match to the Felis
sylvestris ornata ("Indian desert cat"), one of the wild
cat subspecies believed to be an ancestor of the do-
mestic cat.

For many people, predictability of temperament and
appearance are important factors in their selection of a
pet cat. For others, the spontaneous unpredictability they
find in random-bred cats is interesting and desirable.
Permanent bonding of a human being to a cat is more
likely when the cat meets the person's particular needs
and expectations.

The coevolving relationship between cats and hu-
man beings is ongoing. Any attempt to raise the status
of cats starts with establishing an attitude of apprecia-
tion for all cats. As "cat people," we can take the lead
by placing value on every category of cat—feral/
unowned, random-bred, and pedigreed—and by en-
couraging new approaches to improve the well-being
of all cats.

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Feline behavior and welfare

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Cats that are housed exclusively indoors generally live
long and healthy lives, free from the diseases, para-
sites, and potential injuries that are serious risks to out-
door cats. The welfare issue that must therefore be ad-
dressed is the effect of indoor living on the cats' behavior.

When a cat is motivated (or aroused) to perform
such species-typical behaviors as play, investigation, feed-
ing, hunting, drinking, scratching, and eliminating, the
cat's environment must provide sufficient outlets to sat-
sify these needs (achieve de-arousal). Cats that are free
to roam outdoors can exhibit these behaviors with little
or no direct consequences for the owners. However, nor-
mal behaviors such as marking territory, predation, climb-
ing, scratching, chewing, exploration and investigation,
nocturnal activity, vocalization, and mating are often
considered to be undesirable or intolerable when per-
formed indoors (depending on the context in which they
are performed). On the other hand, grave risks are asso-
ciated with cats roaming freely outdoors, especially in
densely populated urban environments. Outdoor cats
may be exposed to potentially fatal diseases such as FeLV,
feline immunodeficiency virus infection and panleukopenia. They may be involved in agonistic en-
counters with other cats and must learn to avoid preda-
tors, technology (eg, cars, trucks, trains), and even some
human beings. Some humane societies in large urban
centers such as Toronto, Canada have assessed these risks,
and now allow only those who agree to house their cats
indoors to adopt cats.

Although indoor housing is obviously desirable for
the cat's physical health and longevity, can a cat be housed
indoors without any detrimental effects on its behavior?
Certainly, some cats seem to have a strong desire to go
outdoors, and frustrating these attempts could be diffi-
cult on the client and the cat. However, even with severe
space constraints, most cats that are neutered and pro-
vided with all of the "amenities" of outdoor living in their
indoor environment can live their entire life indoors, free
of behavioral problems. This ability to survive and thrive
indoors in bustling urban environments, along with their
cleanliness, ease of house training, small size, social na-
ture, and ability to tolerate being alone, has helped to
make cats the most popular pet in the Western world.

The Social Nature of Cats: Selection and
Socialization

Over the past few years, our knowledge of feline
social structure has evolved from the widespread belief
that cats are generally an asocial and solitary species.
Evaluation of feline social organization reveals wide di-
versity in sociability and social structure. Genetic differ-
ences and early social interactions between cats, particu-
larly during the sensitive period from 3 to 7 weeks of
age, account for how social a cat becomes. Social rela-
tionships between cats and human beings also have great
diversity. Although most cats develop strong social ties
to people, some cats are more independent, with little
desire for human contact.

Socialization is the process in which an animal de-
velops a social relationship or bond with members of its
own or another species. Cats that develop social rela-
tionships during the sensitive period are often capable
of maintaining these relationships for life. Therefore, to reduce fearful or aggressive behavior toward people and other species, kittens should receive as much exposure and contact as possible, prior to 7 weeks of age. These relationships also should be maintained into adulthood. How sociable a cat becomes does not depend solely on socialization, but also on the cat's inherited personality type. About 15% of kittens may be resistant to socialization.\textsuperscript{1} The strong influence of genetics on an adult cat's behavior should be considered in the pet selection process.

\textbf{Breed and parentage—} The best way to predict the behavioral and physical attributes of an adult cat is to obtain a purebred from known parentage. The potential pet owner should review the physical and behavioral characteristics of the breeds being considered, including the predilection for behavioral problems such as wool sucking\textsuperscript{2} or excessive vocalization.\textsuperscript{3} Petting and handling the parent or parents also may provide some insight as to the potential of the offspring.

\textbf{Sex and age—} Because the most receptive age for socialization is between 3 and 7 weeks, kittens should be obtained by 7 weeks of age or have had sufficient human contact prior to that age. Kittens over 7 weeks of age and adult cats should be assessed prior to selection for sociability (see Temperament testing).

Castration reduces urine odor and expression of sexually dimorphic behavioral traits such as roaming, fighting, and urine marking (by about 90%).\textsuperscript{4} Spaying eliminates estrous cycles and associated marking. Even after neutering, however, approximately 10% of neutered males, but only 5% of spayed females, spray urine.

\textbf{Temperament testing—} The value and effectiveness of testing young kittens is debatable, because many behavioral and health problems do not emerge until the pet matures. For cats, three personality types have been identified: sociable, timid and unfriendly, or active and aggressive.\textsuperscript{5} Cats should be evaluated in an attempt to determine which of these behavioral types they fit, and should be placed in appropriate households.

\textbf{Preventing Behavioral Problems: Setting up the Environment for Success—} Cat-proofing the home—Owners must be prepared for the kitten's ability to jump, climb, and explore, as well as to chew on just about anything from thread to electric cords. Although crate training can work well for cats, kitten-proofed rooms are usually sufficient, as long as there is nothing that the kitten might damage and nothing dangerous to chew on, swallow, scratch, or climb onto. The room should contain appropriate toys, a scratching post or feline activity area, a comfortable sleeping (bedding) area, and litter box. Child locks and barricades also may be successful in keeping cats away from particular areas of the home.

Problem areas also can be protected with booby traps. Booby traps are intended to teach the cat that an area is aversive or out-of-bounds, in much the same way that a cat might learn to avoid chewing on certain plants (eg, cactus) or avoiding certain locations (eg, swimming pools, train tracks) in their environment. Commonly used booby traps include motion detectors, aversive odors or tastes, or uncomfortable stimuli (eg, double-sided tape).

\textbf{Litter box training—} Litter box training is simple, as long as the cat is provided with an appropriate litter that is easily accessible and is cleaned regularly. Cats that eliminate in plant containers may prefer the texture or odor of soil. A simple solution is to keep the cat away from the plants. Placing a layer of decorative rocks over the soil may help. Other options are to add some soil to the litter to make it more desirable or to booby-trap the plants to keep the cat away. Cats that eliminate in one or two inappropriate locations may desist if food is placed in the area. All areas of inappropriate elimination should be thoroughly cleaned with a commercial odor inactivator, then made inaccessible or less desirable with booby traps (when the owners are unable to supervise). The litter box should be made as desirable as possible (consider location, type of litter, type of litter box), and any deterring factors must be corrected (eg, deodorized litter, strong disinfectants, insufficient cleaning). Sandy, clumping litter may be easier to keep clean and is often preferred by cats over conventional clay litter. If the cat persists in eliminating in a particular location, a second litter box can be placed at that location, and gradually relocated to a more appropriate area.

\textbf{Preventing Behavioral Problems: The Role of Environmental Enrichment—} Environmental enrichment should be accomplished not only through modifications and attention to the cat's physical environment, but also by providing appropriate forms of social interaction with people and other pets. Of course, indoor living does not preclude the occasional trip outdoors on a harness and leash for some fresh air and exercise. Because of marked individual differences between cats, owners must tailor their home environment to meet the specific needs of their own cat.

\textbf{Play, exploration, and nocturnal activity—} Understimulation, an excess of unused energy, and lack of appropriate opportunities for play can lead to play aggression, destructiveness, or excessive nocturnal activity. Obesity is also more common in cats that are inactive and housed exclusively indoors. Play and exercise sessions provide the cat with attention from the owner and an outlet for exploration, chase, and play. Cats seem to be most stimulated by moving objects that can be stalked, swatted, or pounced on. Some successful interactive toys might include wiggling ropes, wands with fur or feathers, and toys that are thrown or rolled for the cat to chase. Mirrors or laser pointers that produce moving spots of light are attractive to many cats. Obedience training, using food or play as rewards, can provide additional stimulation and activity.

For self-play, the cat can be provided with toys that roll, such as ping-pong balls or walnuts; toys that dangle; battery-operated or spring-mounted toys; scratching...
posts; and toys within containers that can be chased and manipulated. Many cats enjoy exploring novel areas so that providing empty boxes, paper bags, or a feline activity center can be useful. Activity centers also provide a location for climbing and scratching. Some cats prefer perching at high levels, presumably because they make excellent vantage points. Shelves and bookcases often can be adapted to suit the cat's and the owner's needs. Catnip-treated toys and toys with food inside can help to stimulate play and exploration. Visual stimuli in the form of cat videotapes, television, or even a cat-proofed aquarium may be of interest to some cats. Cats with a strong desire for social play might benefit from the addition of a second kitten to act as a playmate, provided that both cats have been adequately socialized to other cats.

Some problems arise as a result of the cats' nocturnal nature. Typical complaints are cats that nibble or even attack the owner's ears or toes in bed, that walk across sleeping owners, or that have explosive, uncontrollable play sessions across the furniture and/or owners, during the night or early morning. By scheduling play periods and feeding the cat throughout the evening, the cat may sleep through the night. Some problems can be prevented merely by closing the bedroom door or confining the cat to a separate room at night. If the cat continues to cause problems, punishment techniques (eg, water sprayer, ultrasonic devices, compressed air) may be necessary to deter overexuberant and nighttime play.

Destructive behavior—Most destructive behavior in cats can be corrected by providing the cat with appropriate outlets for play, investigation, or chewing, and by preventing or deterring access to problem areas and problem items (eg, with booby traps or aversive tastes). Cats that climb drapes, jump onto counters, or chew on household objects (eg, string or electric cords) are usually exhibiting playful and exploratory behaviors. Cats that chew on plants may benefit from a higher-fiber diet (perhaps with some added raw vegetables) or a safe kitty herb garden to chew.

Feeding sessions can be made more natural if the cat is provided with a mechanism for searching for food. By providing small meals in various locations or requiring some form of manipulation to obtain food (eg, cat-scratch feeders or toys or entertainment centers with food inside), feeding can become a much more active and productive part of the cats' day.

Some cats, many of which are oriental breeds, have an overly strong desire to suck and chew material (particularly wool). Providing alternative oral stimulation in the form of dog chew toys or bulky, dry, or chewy foods might satisfy these desires of some cats. Booby traps and taste deterrents also may be helpful.

Excessive vocalization—Feline vocalization sometimes may be loud enough to generate complaints of excessive noise, but generally the persistent or nocturnal nature of the vocalization concerns the owner. Because cats are nocturnal by nature, a somewhat common problem is the cat that wakes or disturbs its owners at night. Cats also may howl and cry as a threat, as sexual behavior, or in an attempt to solicit resources, such as social contact, food, or attention. Some breeds such as the Siamese may have an increased genetic predisposition toward vocalization.

Vocalization must never be rewarded (eg, by allowing the cat outdoors, or providing food, attention, or play on demand) if the owner feels this is a problem. Vocalization can be interrupted with a water gun, compressed air, a loud verbal "no," or alarm device, and the cat should be ignored until it is calm and quiet. Spaying and castration will abolish most vocalization associated with sexual behavior.

Scratching—Scratching is a normal behavior that conditions the claws, serves as a visual and scent marker, and is a means of stretching. However, when scratching is directed at furniture or members of the family, it is generally unacceptable. Inappropriate scratching can be prevented by keeping the cat away from problem areas, trimming the claws regularly, and providing a proper scratching post. Cats can be encouraged to use a scratching post by placing it near their sleeping area and by covering it with a material that is appealing to the cat. Toys or catnip also can be placed in this area. Should the cat continue to scratch in an inappropriate area, the post could be moved to that area and/or the scratched furniture can be covered with a less appealing material (eg, plastic or a loosely draped piece of material). Alternatively, remote punishment (eg, water gun) and environmental punishment (eg, booby traps such as sticky tape, or a motion detector) can be used to deter further scratching of an area. Some owners may want to consider plastic coverings that can be glued over the claws monthly.

For those owners who cannot train destructive cats to use a scratching post, declawing is another alternative. The primary reasons for declawing are property damage or the risk of injury to people or other pets. Sometimes, the welfare of a family member may be best protected by declawing the family cat (eg, for human beings with compromised immune status because of human immunodeficiency virus infection or immunosuppressive therapy). When an owner requests declawing, whether declawing is in the best interests of the cat and the family must be decided. Declawing allows the family to keep the cat and enjoy the rewards of pet ownership. Declawing also results in fewer cats needing to be rehomed or destroyed and more cats being placed in homes.

In studies performed to date, whether declawing causes an increase in behavioral problems has been examined. In each study, declawing was shown not to alter the cats' behavior. In fact, cats continued to scratch furniture after declawing, but did not cause substantial damage. In a study of more than 850 cats, declawed cats were no more likely to bite than were clawed cats. Results of declawing successfully met or surpassed the owner's expectations for all cats, and more than 70% of cat owners indicated that the cat-owner relation-
ship improved following declawing. In a study of veterinarians in Ontario, it was estimated that more than 50% of owners of declawed cats would not have owned or kept their cats had those cats not been declawed.6

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