The Cat’s Personality – Individual Variation and Breed Characteristics

Experienced cat owners know very well that you will not find two cats with exactly the same personality or behavioural traits. Cats can be as different as people, and this is one reason why cats are so fascinating. Some characteristics may change with age and there may be gender-based differences in behaviour. There are also marked differences in typical behaviour between cat breeds. As with other animals, and people, cats develop different individual characteristics due to their inheritance (genes), environment and personal experiences. This chapter looks at various factors that lead to the individual characteristics of cats.

What Is the Typical Behaviour of Cats?

In 2014, a survey of cat behaviour was conducted by Silja Eriksen for her Master’s thesis in ethology (animal behaviour) at the Norwegian University of Life Sciences. Cat owners answered 99 questions about the behaviour of their cats (the Fe-BARQ survey). The owners scored their cat on a scale from 1 (never occurs) to 5 (always occurs) for each question. Results were received on 1204 cats and the answers were grouped into 22 more general traits.

From the results, we can conclude that most of the cats were quite sociable towards people, seeking contact and vocalizing to attract attention. They were moderately active and playful, and liked to hunt for prey if the opportunity arose, but also rested and slept a lot, as expected for carnivores. Most cats were considered easy to train. They learned to come when called, though did not always do so when motivated to do something else. Some cats had separation problems that were apparent when the owner was getting ready to go out, but few cats had toileting or other behavioural problems. Aggression towards unfamiliar people, or dogs and cats in the household, was quite rare. Aggression when touched or being held was not common if the cat and owner had a good social bond. The graphs in Fig. 3.1 show the response distribution for these behavioural traits. You can see what was typical across the cats in general, but at the same time note that there were big differences between individuals.

Differences in Personality

If two cats show consistent, long-lasting individual differences of behaviour, they can be said to differ in personality. Certain traits tend to occur together, allowing them to be grouped into major personality types. In Austria, the behavioural scientist Kurt Kotrschal and his colleagues have

described four main personality axes in domestic cats: active/ playful; anxious; sociable; and feeding style. The latter concerns whether the cat shows gluttony, which is most common in male cats, or carefully examines its food before deciding whether it is safe to eat, which is more typical of females. Another typical personality difference is whether a cat is calm, not showing much response to things around it, or alert, quickly exploring new things in the environment and paying close attention to what other cats are doing. You can also talk about personality types like *nervous*, *aggressive* and *self-confident*. All cats will be somewhere on a scale for each of these personality types, from very low to very high.

The owner's personality affects their cat Kotrschal and colleagues have also investigated the relationship between the personality of the cat and the personality of the owner, measured across the five domains of human personality (see Chapter 12). *Neurotic* owners have intense social interactions with their cats. They often kiss their cats and are typically very particular about the type of food they give. At the same time, they tend to engage in less object play with their cats compared to more *extrovert* owners. For neurotic owners, the cat is important to them for social support. Cat owners who score high on *openness* participate in more object play with their cat. Their cats tend to have lower levels of fear and tension. They are also likely to be more self-confident and to spend less time exploring new things before deciding if they are safe. To cat owners scoring high on openness, the cat is also a source of social support, especially in the role of a playmate.

Some behaviour traits tend to increase or decrease with age. Older and geriatric cats may become more aggressive towards other cats in the household, and miaow more to obtain something from the owner. They can become less interactive and show more reluctance to be held. They can also become generally less active and playful, less social towards people and unfamiliar cats, and catch less prey.

Old cats may get dementia

Older cats do not generally have more behavioural problems than younger cats, but when they reach 12–15 years of age, some may develop new problems; they may nag their owner more about something, wake up the owner more frequently at night, show anxiety, or start urinating or defecating outside the litterbox. Some may also become disoriented, wander off, stare straight ahead or become more restless. They may show repetition of a behaviour, termed a *behavioural stereotypy*.

Many such behavioural problems can be due to physical illness. Arthritis gives a stiff gait, and the cat typically becomes cautious when jumping from heights due to aching joints. Toileting problems may be due to urinary tract disorders or finding it difficult to get into the litter tray. Other problems may be due to diabetes, cardiovascular disease, high blood pressure or impaired vision or hearing. If your cat suddenly changes its behaviour, take it to the vet for a health check (see Chapter 11).

Several behavioural changes may be associated with *cognitive impairment*. Cats and dogs can develop dementia, similar to Alzheimer's disease in humans. The same changes can occur in the brain, with disturbed nerve function and, eventually, shrinking of the cerebral cortex. Gary Landsberg from Canada has found signs of cognitive impairment in 28% of cats aged 11–14 and

50% of cats over 15 years of age. If the vet can rule out other illnesses or injuries, or an unsuitable environment, dementia may be the cause. On the other hand, old cats may have dementia along with other health conditions.

How can we prevent dementia? Today, there is no effective medicine against dementia, although some preparations may slow down its progress. Instead, we must try to prevent cognitive impairment and dementia through providing mental stimulation and environmental enrichment throughout the cat's life, even when elderly. Give your cat tasks that stimulate the intellect. There are cat puzzles and feeders where the cat has to work to get toys or dry pellets. Engage your cat in object play to stimulate the senses and encourage movement. This is particularly important for indoor cats. If you suspect that your cat has dementia, avoid big changes. Introduce one new thing at a time. The cat may become stressed if exposed to novel objects or situations too frequently.

Sex Differences

At 12–16 weeks of age, male kittens become more active than female kittens. In adult cats, apart from behaviour associated with mating and reproduction, the clearest sex difference found in the study by Eriksen was in sociability towards unfamiliar cats. Here the males scored higher than the females. On average, males also sought more attention and purred more when in contact with their owner, whereas females were more reluctant to be held. This may be part of the reason why people tend to develop a stronger social bond with male than female cats (see Chapter 12). Female cats were more likely to show aggression towards other cats in the household and had a clearer preference for specific rest areas.

Genes and Behaviour

People sometimes ask whether a particular type of behaviour is determined by inheritance or environment. In practice, it is invariably both. All behaviours have a certain genetic basis and are influenced by the conditions in which the cat lives. The genes make it possible for the brain to control the muscles and hormones so a certain behaviour can be performed. Genes also vary in their activity over time and influence the sequence of changes in behaviour as a kitten matures. However, when responding to particular stimuli, the cat's current needs and learning from past experiences influence decisions about when and where to perform particular behaviour patterns. Experience tells the cat in which situations it is wise to perform a certain behaviour.

Some behaviour patterns are strongly influenced by genes, such as how the cat eats, drinks and grooms, and how it mates, gives birth and nurses offspring. There is little individual variation in how cats perform these behaviours. Most other behaviour patterns show pronounced individual differences between cats. These differences are more influenced by specific environmental conditions or experiences. Environmental conditions during the mother's pregnancy can even affect kittens before they are born by altering the expression of their genes. Variation between individuals in the way they are affected by the environment explains why cloned cats with identical genes will not grow up behaving exactly the same way.

In England, Sandra McCune found that the cats that were most friendly to people were more likely to have a father with the same trait, even though they never had contact with their father. This

shows that this trait is related to a specific genetic makeup. Cats with fathers that were more sociable towards people were also less reluctant to explore novel objects. Such studies indicate that there is a relationship between the cat's confidence or boldness and its inclination to be sociable. Socializing involves some risk, and more timid cats usually prefer to be alone.

Several interesting studies indicate that the cat's hair colour is related to its behaviour. This is linked to the genes behind the different colour pigments, which also affect the production of hormones affecting behaviour. Black cats tend to be tolerant of other cats whereas cats that have the red/orange gene variant, such as orange, cream-coloured and tortoiseshell cats, may show a more offensive attitude. These cats are more likely to be aggressive than black cats and may struggle to escape if handled by strangers. In Italy, the ethologist Eugenia Natoli and her co-workers have investigated how cats with different coat colours behave during the mating season. Where there is a high population density of cats, such as in Rome, black males are more successful in obtaining copulations with females than are orange males. While the orange males spend time arguing with each other, the black males are busy courting and mating the females. In rural areas, on the other hand, where cats are spread further apart, an orange male can focus on keeping black ones away from females in heat. This can explain why black cats are more common in places with a high cat population. An aggressive attitude places the orange males at a disadvantage, so they father fewer offspring and orange males become rarer. However, this behavioural difference between orange and black cats is not pronounced and has not been found in all studies (Fig. 3.3).

A relationship between colour and aggression is not only found in cats; something similar is seen when comparing red cocker spaniels with black and other spaniel colour variants, and when comparing farmed salmon with many pigment spots to those with few. An old myth says that red-haired Scottish people are particularly aggressive. Anyway, such tendencies may show up only when we observe many individuals. Orange cats are not always aggressive; many are very pleasant cats, including famous ones such as the streetcat Bob, in England; the library cat Dewey, who lived in Iowa, USA; the tomcat Bolle, in Lübeck, Germany; and the Norwegian cats Jesperpus, famous for accompanying his owner on cross-country skiing tours, and Pusur, a Facebook favourite. There might be a connection here. These famous cats are obviously very self-confident. This self-confidence may form the basis for the competitive ability of orange males in social contests.

Inheritance of behavioural traits

In another Master's thesis from the Norwegian University of Life Sciences, Ingrid Westbye examined hereditary differences in behavioural traits among Siamese and Persian cats. She examined the effect of paternity by having 20 males of each breed each father five litters. The highest heritability was found for the degree of activity and playfulness. The cat's tendency to approach unfamiliar adults or children visiting the family also had high heritability. Among behavioural problems, Westbye found the highest heritability for anxiety or fearfulness when exposed to loud sounds or unfamiliar people. These results are probably applicable to other cat breeds.

Behavioural traits that are desirable for the cat owner and improve the cat's welfare must be considered when selecting breeding males and females. This will have positive ripple-down effects. Behavioural problems will diminish, and cat owners will be more pleased with the behaviour of their

cat. The behaviour will also be more in line with owner expectations.

The international breed standards for cats should also consider cat behaviour. The standards should encourage the selection of cats with lower fearfulness of people and novel environments, higher sociability towards unfamiliar people, and lower likelihood of aggressive behaviour. The latter has already been achieved to some extent, as judges at cat shows may refuse to judge aggressive cats. Because both parents contribute to the temperament of their offspring, cat breeders must carefully consider the behaviour of both males and females to be used as breeding animals.

Breed Differences in Behaviour

In her Master's research, Westbye also described behavioural differences between Siamese and Persian cats and non-pedigree house cats. She found several consistent differences in behaviour between them which are summarized here, but keep in mind that there is marked individual variation within each breed. The Persian cats were calm, showing little fear or anxiety towards unfamiliar people or when hearing loud sounds. Aggressiveness towards people and other cats was rare, and Persians rarely engaged in social conflicts with other animals in the household. Persians often approached familiar and unfamiliar people, though not as frequently as the Siamese cats.

Cats of the Siamese breed were active and outgoing. They frequently approached both adults and children, and they showed little fear or anxiety towards unfamiliar people. They vocalized often when communicating with their owner, greeted the owner often, and frequently visited the owner's lap to be stroked or to rest for extended periods. On the other hand, if there were other animals in the household, they could have social conflicts with them – the Siamese cats demanded attention by their owner and would rather have the owner all to themselves. The Siamese could be somewhat more difficult to housetrain; they were more prone to urinate outside the litterbox than house cats, and they did the most frequent urine marking.

Of the three breed types, the non-pedigree house cats were most likely to go outside when allowed to and roamed the most widely. They were the most likely to encounter other cats in the neighbourhood, which could trigger aggression and social conflicts. They were also the most likely to show aggression towards other animals in the household. They showed the most fear or anxiety towards other cats, loud noises and unfamiliar people, and were the most reluctant to approach unfamiliar adults and children. Their tendency to be more fearful also increased the risk of aggressive scratching and biting. Overall, as might be expected, their behaviour was more reminiscent of that of wild ancestral cats. In Italy, scientists compared behavioural development of the Norwegian forest cat with the oriental breeds (mainly the Oriental and Siamese). When kittens were placed in an unfamiliar environment, the kittens of oriental breeds were more passive and had a higher heart rate than the forest cats, who were more eager to explore the new surroundings

In her Master's study, Eriksen used the owner reports to examine differences in the behaviour of the most common breeds found in Norway. Table 3.1 shows which breeds scored the highest and the lowest for each of 13 important behavioural traits. As can be seen, the Burmese was ranked the most sociable and contact-seeking, while the Persian, Norwegian forest cat and Egyptian mau were the most sociable towards unfamiliar cats. The most active and playful breeds were the

Bengal, Abyssinian, Oriental, Burmese and Siamese. The Abyssinian ranked highest for aggressiveness, whether towards other cats in the household or unfamiliar people. The Bengal showed the most separation problems and the most fear of novelty, probably because this is a new breed formed by crossing domestic cats with a wild species, the mainland leopard cat, for whom being cautious of novelty is an important survival trait. Scores from an American survey by Benjamin Hart suggest that American Bengal cats may exhibit a wilder nature than those found in Norway, possibly due to strong selection for tameness by Norwegian breeders.

Although Eriksen's survey indicated statistically significant breed differences, the differences were not dramatically large. Is your pedigree cat unlike the breed averages shown in the table? It may well be so, as there is great individual variation within each breed. Therefore, when picking a kitten, watch the behaviour of each kitten in the litter closely. Find one that you think will suit you and your lifestyle. Do you prefer an active, independent cat, or a highly social cat that wants to stay near you? In Figs 3.7 and 3.8 you can see how the most common breeds varied in sociability towards people and in activity/playfulness, with scores from 1 (never) to 5 (always).

On average, the non-pedigree house cats were more reluctant than the pedigree cats to be held by people, and they were more likely to exhibit fearfulness towards unfamiliar cats and dogs. Several studies indicate that these cats, which are more often allowed outdoors than are pedigree cats, may be stressed by things that happen when roaming outdoors and bring some of this stress into the house, resulting in some behavioural problems.

Intensive cat breeding has not been practised for long (only about 60–150 years for many breeds), and it has been directed to selecting for different physical looks rather than behavioural traits. Breed differences in behaviour are likely to increase as systematic selective breeding continues across many generations. Pedigree cat breeders have a responsibility to contribute to the selection of more healthy cats in terms of both physical and psychological health, by reducing breed-specific diseases and anatomical defects and promoting favourable behavioural traits that result in satisfied cat owners.

Environment and Experience

Although genes are important for behaviour, you cannot always blame your cat's parents if the cat has behavioural problems. We have previously considered how important it is that a kitten develops a good relationship with its mother and the people in the household. But the environmental impact already begins at the foetal stage. Research

Fig. 3.6. Norwegian forest cat in its element. (Photo: Maria Myrland, 2019)

Table 3.1. Breeds scoring the highest and the lowest for each major behavioural trait, on a scale from 1 (never) to 5 (always). The breeds are ranked, so the one with the highest score is presented first in the middle column and the one with the lowest score is presented first in the right-hand column. Non-pedigree cats are termed 'house cats' for simplicity. (From Silja C.B. Eriksen, 2014)

Fig. 3.7. Breed differences in the degree of sociability towards people. The scale goes from 1 (not at all) to 5 (very much). The breed codes follow the Easy Mind System (EMS code): ABY =

Abyssinian, BEN = Bengal, BSH = British shorthair, BUR = Burmese, HCS = House cat shorthair, HCL = House cat longhair, MAU = Egyptian mau, MCO = Maine coon, NFO = Norwegian forest cat, ORI = Oriental, PER = Persian, RAG = Ragdoll, SBI = Sacred Birman, SIA = Siamese, SIB = Siberian cat. The bars show the average score and standard error. The number above the breed code shows the number of cats within the breed, based on survey responses from owners. The red line marks the average across all the cats. (From Silja C.B. Eriksen, 2014) on many species – such as mice, rats, foxes, sheep, goats, chickens, salmon and humans – shows that if a pregnant female experiences severe stress during the last third of a pregnancy, this can have lasting consequences for hormonal regulation and behaviour of her offspring. This is called *prenatal stress* and it can cause the offspring to be more anxious, reacting more strongly and for longer to stressful

situations. Learning ability and sociability may be impaired, and the animal may be more nervous in general. In females, this anxiety may also impair the ability to provide consistent care for babies. Thus, stress in a mother can have long-term consequences, not only for offspring but for grandchildren as well. Research in mice shows that when a pregnant mother is severely stressed, this can cause chemical changes in the brain of the foetuses that block parts of their DNA code from being read. This so-called *epigenetic* effect can reduce the production of specific proteins that bind *cortisol*, an important stress hormone, to brain cells in the hippocampus. The hippocampus is a structure in the *limbic system* of the brain that plays an important role in learning, memory and regulation of emotions. The consequence is that, later, when the offspring are stressed and their body produces cortisol, there are fewer cortisol receptors in the hippocampus to mop up the cortisol and switch off the stress response. This results in over-reaction to stressful events, which may be a lifelong trait. Such research is not currently available for cats, but there is no reason to believe that the same mechanism does not apply to them also. The moral is to take good care of pregnant mothers!

Research on mice and rats during the last two decades suggests that we can, to some extent, remedy the effect of prenatal stress if we suspect that it has occurred. If we ensure that the kittens get plenty of opportunities for socialization with other cats and people during the socialization period, and continue with this training as they get older, this should affect their behavioural development in a favourable direction. An enriched environment with plenty of interesting things to do should also help, by enticing them to voluntarily come out of their hiding-places to explore and play. While much remains unclear about how this works at neuronal level, we do know that during the socialization period the brain continues to develop rapidly, hence its importance.

As cats grow older, they are affected by their own experiences, but there is variation in the age when different behaviours are most affected by experience. For example, hunting skills can differ between kittens at two to three months of age, but such differences diminish when they all get more experience. The opposite can occur for social characteristics in a litter where the kittens have different fathers. If a queen mates with two or three tomcats, each of the males may father some of the kittens. Around eight weeks of age, all the kittens may be similarly friendly towards unfamiliar people, especially if their mother is friendly to strangers. However, by 20 weeks of age, the genetic influence of paternity appears, resulting in differences between the kittens in how they respond to strangers.

Sometimes it is important not to judge cats too soon. For example, cats that have stayed in quarantine for some months can be more tame and friendly when they finally arrive at their new

home. But if the separation from their owner while in quarantine was a traumatic experience, then after three months in their new home, some of them may start showing nervousness and miaowing when they feel alone. For other traits, differences seen between kittens at an early age do not change so easily. This applies, for example, to activity level, curiosity, boldness and competitiveness, indicating stronger genetic influences on such traits.

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