

Coprophagia

Why does my dog eat poo?

The short answer is – we don't really know. In his book *Handbook of Applied Dog Behavior and Training, Etiology and Assessment of Behavior Problems* Steven Lindsay summarises our lack of knowledge by saying "The exact causes of the habit are unknown, but several etiologies have been described. There appears to be some connection between excessive coprophagy and nutritional deficiencies, stress, boredom, unsanitary rearing conditions and restrictive housing". The information about coprophagia written below has been gleaned from the sources listed in the bibliography.

Nutritional/Dietary/Medical Causes

Some theorists believe that dogs eat poo for the simple reason that they only get fed once per day and it is a chance to "snack between meals". This theory is under investigation at Washington State University.

Another theory is that taste and smell play a large part in coprophagia. Dr Karen Overall speaks of anecdotal evidence for this and also of the need for more research into this cause. Dr Bonnie Beaver claims that dogs eat the faeces of ungulates, particularly horses, because their faeces give the dogs "special types of nutrition, like enrichment from large intestinal fermentation, partially digested vegetable matter...or B vitamins".

Other researchers list some of the nutritional/medical causes of coprophagia as "...exocrine pancreatic insufficiency, pancreatitis, intestinal infections, malabsorptive syndromes and over feeding (especially high fat content diets)". However, they are quick to point out that most of the mentioned conditions are accompanied by other symptoms and that coprophagia is a minor aspect of these medical conditions. Overall claims that most coprophagic dogs do not suffer from physiological or gastrointestinal problems that may cause them to seek supplementation by means of eating faeces. However, she does not rule out such things as poor diets or pancreatic enzyme deficits as possible causes of coprophagia in a minority of dogs.

Stress/Anxiety/Environmental Causes

Lindsay discusses coprophagia as a result of "...behavioural adaptation to stressful housing conditions, especially those involving increased restriction and social isolation". Houpt reported that dogs that were kept in kennels or in basements were more likely to undertake coprophagy. Beerda and colleagues concur that coprophagia's etiology may be based in "restrictive confinement". In Beerda's study, beagles were moved from an outside environment into a more restrictive indoor environment. The possibility is raised that the reason for their subsequent coprophagia may be the actual change and adaptation to the new habitat and its associated stress, rather than simply the change itself.

Obsessive compulsive disorder (OCD) may cause extreme coprophagia in dogs. Overall describes obsessive compulsive dogs that "...stimulate themselves to defecate and ingest their own feces directly from their rectum". Despite these dogs comprising only a minute number of coprophagic dogs, OCD is still listed as a possible cause.

Campbell postulates that some dogs choose to eat their own faeces because it eliminates the *evidence* and the threat of punishment and hence reduces anxiety in those individuals who have been inappropriately punished for house soiling. This scenario impacts further on the dog as he may acquire additional punishment, more anxiety in the presence of faeces and, consequently, more stool eating.

Serpell & Jagoe claim that coprophagia "...was more common

then expected among animals found unowned or rescued off the streets". The suggestion is that some of these dogs may have "...relied on faeces as a source of nutrition while struggling to survive on their own". Studies of dogs on restricted diets did not support this theory but the study did not necessarily invalidate it either due to the possibility that conditions suffered by the experimental dogs may not have been adequate to evoke the need for stool consumption.

Evolutionary/Developmental Causes

Lindsay proposes that as a consequence of changes in fortune over the period of domestication, dogs would have experienced hard times requiring them to survive on human garbage and faeces. This he claims may have "...been encoded over time as a genetic trait. Dogs that could subsist on such a diet would have had a distinct survival and reproductive advantage over dogs that refused to eat such things". Subsequently, dogs that fed on refuse acquired a tolerance to the illnesses that could be caused by the ingestion of unhealthy food and faeces. This has resulted in many hypotheses being made about the attempt to use taste aversion in the treatment of coprophagia.

Beaver, Overall, Hinkle, Hofmeister and Lindsay all concur that it is normal for bitches to exhibit coprophagia in order to clean up their puppies' environment and Hofmeister also suggests that this behaviour may aid in "...preventing the scent of the feces from attracting predators". Overall states that coprophagia is a normal maternal behaviour for a bitch with young pups but that no study has been undertaken comparing coprophagic habits of bitches who have or have not had puppies. Lindsay confounds the issue further by stating that adult male dogs will also consume faeces produced by young puppies.

The smell of faecal material on the mouth of a nursing bitch, gleaned from cleaning up after the puppies, may allow the puppies to identify that smell with food. Lindsay claims that this may be particularly so "...in the case of hungry puppies that beg for food by sniffing and licking at the mother's mouth and muzzle".

Beaver claims that coprophagia is a normal part of puppy development by way of environmental exploration as well as a way to help establish intestinal microflora. Lindsay comments that coprophagia is more prevalent among puppies and young dogs "...between 4 and 9 months of age", without being specific as to why. Hubbard also comments on its normality. Puppies undertaking exploratory play in less than hygienic conditions, barren of environmental enrichment, may result in them playing with and ingesting faeces.

Behavioural Causes

Hofmeister suggests that a possible cause may be allelomimetic behaviour (behaviour that influences another to do the same). "The dog observes the owner picking up the feces and learns from them to do so as well". Hofmeister's study is examining the possibility that coprophagia could be a learned behaviour. One dog

observes another in his household or with whom he comes into contact and follows suit. This does not resolve the issue of why the first dog engaged in coprophagia. Merely eating in the vicinity of faeces may result in an associative link between the odour of the faeces and food. Later this association may cause the inadvertent identification of faeces as potential food.

Hofmeister states that his future study will also explore the possibility that submissive dogs eat the faeces of the more status seeking dog in the same household. His rationale for this is that “there are other examples in nature where the submissive members of a group participate in apparently bizarre behaviors”.

Stool eating may be an attention getting behaviour, particularly if it results in a game with the guardian playing “keep away” with the dog. Hofmeister claims that well-treated animals are less likely to engage in this attention seeking behaviour because they are already receiving the amount of attention required to satisfy their needs. However dogs that lack that needed attention may use this method of attention seeking, despite the attention the dog receives being negative. Hart and Hart concur that coprophagia can be an attention seeking behaviour based on the dog picking up the owners emotional reaction to the sight of a dog eating its own faeces.

Summary

Despite the abundance of theories about the putative causes of coprophagia listed in this article and doubtless others elsewhere, the authors cited here agree that little proof exists for any of these theories and that more research is essential if our understanding of coprophagia and its causes are to be fully understood.

*Debra Millikan
Cert IV Dog Behavioural Training*

Bibliography

Beaver B, 1999. *Canine Behavior: A Guide for Veterinarians*. WB Saunders Company, Philadelphia, USA

Hinkle R. Coprophagia. www.hilltopanimalhospital.com/coprophagia.htm viewed 5 July, 2006

Hofmeister E, Cumming M, Dhein C, 2003. Owner Documentation of Coprophagia in the Canine. www.vetmed.wsu.edu/pets_archive/study.htm viewed 2 March, 2007

Lindsay S, 2001. *Handbook of Applied Dog Behavior and Training, Etiology and Assessment of Behavior Problems*. Blackwell Publishing, Iowa, USA

Overall K, 1997. *Clinical Behavioral Medicine for Small Animals*. Mosby Inc, Missouri, USA

Serpell J and Jagoe JA, 1995 in *The Domestic Dog its Evolution, Behaviour and Interactions with People*. Ed. Serpell J. Cambridge University Press, Cambridge, UK