

# Fetal health and strength at birth.› postnatal

[Psychology](#), [Behaviorism](#)



FETAL BEHAVIOUR Preparation for Postnatal Environmentü Fetuses of the farm animal species show behaviours that indicate development of systems for physical movement and functional sensory capabilities. ü Fetuses can hear. ü Familiarity with sounds. ü Familiarity with tastes and odours through amniotic fluids FETAL MOVEMENTSü Jaw movements (suckling reflex)ü The fetus swallows amniotic fluid at a high rate which is critical for fetal and amniotic fluid homeostasis and gastrointestinal development (Ross and Nijland, 1997)ü In sheep, the fetus is capable of discriminating different flavors as early as day 135 of gestation (Robinson et al., 1995)ü The fetus also goes through stages of sleep similar to post natal activity, and its through REM sleep during development is critical for growth and development of brain (Richardson, 1992) PRENATAL EXERCISE > Whole body movements by the fetus are considered important to its health and strength at birth.> Postnatal weakness and failure in terms of normal behaviour may be correlated with lack of muscle development and tone during the prenatal period.> The sequence of fetal movements, components of fetal behaviour before birth appear to be well established through FLUROSCOPY.

PREPARATION FOR THE BIRTH PROCESS> Typical movements in the process of birth orientation are the following> Righting (reflecting a change of position)> Extension of forefeet and head towards and into the maternal pelvis .> Rotation of all parts to assume a position for parturition.

BEHAVIOURAL DEVELOPMENT> In general the behavior of the animal is determined by genetic factors but can be modified by learning and training.> Animals can begin learning at a very early stage of development and continue throughout life. LEARNING> Learning refers to any adaptive

change in the behaviour of animal as a result of experience. > Each species performs characteristic behavioral patterns which enable the organism to adjust to changes in the internal and external environment.> At birth animal is equipped with certain behaviors such as suckling and play> Experiments involving the electrical activity of the brain during learning suggests that learning takes place in many places within the brain at once.

Learning , the formation of memories consists of several processes• Temporary Physiological process lasting upto an hour in the nervous system• Permanent biochemical or anatomical changeThree basic techniques to study learning> Classical conditioning> Operant conditioning> Socialization (imprinting)CLASSICAL CONDITIONING > Classical conditioning refers to the process of learning in which there is transfer of an existing response to a new stimulus.> Conditioned reflex is actually substituting one stimulus for another in bringing about a similar type of response.> Ivan Pavlov, 1890s studied the conditioned reflex.> Salivation to food- unconditioned response> Food-unconditioned stimulus> Salivation to bell- conditioned response> Bell-conditioned stimulus > If the conditioned stimulus(bell) is presented alone repeatedly, the strength of conditioned response decreases steadily - EXTINCTION of a conditioned response. > The presentation of the unconditioned stimulus(food) is essential for the strengthening and maintenance of the conditioned response(salivation)-REINFORCEMENTOPERANT CONDITIONING (TRIAL AND ERROR)> Animals have some control over the stimuli they receive and often the responses they use.> Learning by trial and error > For example> Learn to operate nipple drinker> Escape from electric shock> Escape confinement> In these cases the

animal's behaviour is instrumental in bringing about some significant change in its environment> Learning may take place very quickly or it may require several trials.

> Animals learn gradually how to solve a problem by increasing their efficiency through elimination of unnecessary movements> Classical conditioning differs from operant conditioning in classical behaviours are modified through association of stimuli where as in operant conditioning behaviors are modified by the effect they produce(ie. reward or punishment)HABITUATION> Simplest kind of learning> It is regarded as a method of adjusting to the pressure of environment . Example:> If a young kitten is placed next to a cage of birds it will frantically attack the cage , run around it and do everything possible to get into the cage , all the birds are equally trying to escape. In time , however the kitten learns that it cannot get into the cage , and the birds learn that there is no threat from kitten. SOCIALIZATION > Every species of domestic animals has a brief period usually early in life , when its first social attachments develop.

> Hand reared animals become attached to their attendant and respond to him as their own mother or herd mates. IMPRINTING> The social attachments are formed so rapidly that Lorenz called this phenomenon as IMPRINTING.> Imprinting is a common phenomenon in birds during the very early period of their lives immediately following hatching.> The young bird learns to follow the first large moving object sees and hears in the same way as it does its own mother. > Thrope envisages imprinting as ' rapid and very stable form of learning that takes place in the early life of social

species)CRITICAL PERIOD> The time at which socialization or imprinting normally takes place is called CRITICAL PERIOD.> The critical period is related to the degree of physiological maturity of the young at birth and occurs in different species , at different stages in neonatal life. TYPES> Altricial - youngone hatched or born requiring care and feeding by the parents long after birth(Nidicolous)Example: Owls, Cuckoos, Passerines , Cats , Dogs and Humans> Precocial -born with open eyes and are capable of independent locomotionExample: domestic chicken , ducks, geese, cow etc.

. > in precocious species like Ungulates, critical period- 1st week of life. In dogs, CP begins after 3 weeks of age and reaches a maximum at 5-7 weeks and declines slowly thereafter.(Freedman et al., 1961) > The process of socialization has some adaptive significance in domestic animals.> Handling young animals at critical period of life will generally make them much tamer and easier to handleINTELLIGENCE> Ability to learn and respond after minimum training> Among farm animals Pig is rated as most intelligent species Reference : E. S. E. Hafez, 1968, Adaptation of domestic animals, Philadelphia). P. Shukla, 2010, Fundamentals of animal behaviour, Uttar pradeshFraser AF& Broom DM. 1999. Farm animal behaviour