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FACTORS AFFECTING RESPONSES OF CHICKS TO A NOVEL ENVIRONMENTAL CHANGE

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ABSTRACT

After a novel change is detected, or a novel situation is encountered, behavioural responses may range from investigation to active avoidance.

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Responses must be assessed by comparing observed behaviour after a change with what would have happened had no change occurred. The type and magnitude of responses by young domestic chicks depend on the nature of the change, as analysed by the individual, and on motor ability. Larger changes, such as the onset of a brighter rather than a dimmer light, elicit greater behavioural responses. Examples of the effects of different changes are firstly, a greater response to the onset of a point source of light than to an equally bright diffused light. Secondly, the responses to a floor jolt are less than those to a light-onset.

Responsiveness to a novel change is different according to on-going behaviour. Chicks which are walking or pecking when the change occurs show a more active response, with more peeping and more reduction of preening, than chicks which are crouching or standing inactive. Chicks interrupted at the end of a bout of feeding or preening show a greater response than those interrupted at the beginning of a bout. Responsiveness to a change also depends upon activity rhythms, hormone levels and immediate previous experience, such as exposure to the same and similar changes. A novel change presented to developing chicks on Days 3-10 elicits a greater response than the same change presented on Day 1. Smaller responses are shown by chicks reared with a moving object than by those reared in a less complex environment. Responses vary with motivational state and depend on the discrepancy between analysed sensory input and a model of the environment determined by previous experience.