Visual exposure to point-light animation induces a predisposed preference to biological motion in newly-hatched domestic chicks

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A motion picture composed of a set of moving points of light creates a vivid perception of living organism, a phenomena known as Johansson's biological motion (BM). Despite intensive studies in humans, the BM perception has been examined in a few species of animals such as pigeons, monkeys and chimpanzees. Recently, it was shown that newly-hatched domestic chicks have innate preference to a BM animation mimicking a walking hen (W-hen) (Vallortigara *et al.* 2005), however the preference was weak. In this study, we report that a stronger preference is induced by exposure to non-specific visual stimuli. When exposed to W-hen, chicks showed a clear preference to it. Moreover, a variety of non-BM point light animations (rotating hen, pendulum, and random motion) were similarly effective in inducing the W-hen preference in males at the age of post-hatch day-2, but not day-5. When exposed to a stationary picture, chicks showed no preference as in naive control chicks. Chicks (females in particular) also showed a preference to W-hen over a W-cat, a BM animation mimicking a predator. The present results indicate that the early non-specific visual experience induces the innately predisposed preference to BM in a sex- and age-dependent manner.