

Highly sociable Australian birds show us the effects of social conformity

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Scientists from LJMU have published research that provides a unique opportunity to investigate how personality can be affected by social context.

Dr Leah Williams and Dr Claudia Mettke-Hofmann of the School of Natural Sciences and Psychology, published work in the journal *Animal Behaviour* which reveals that the Australian Gouldian finch birds adjust their behaviour according to the [personality](#) of their partners.

When tested alone, a Gouldian finch's personality correlates with its head colour. This finding together with its highly social nature makes Gouldian finches ideally suited to investigate the effect not only of other individuals but also of individual identity (head colour) on personality expression.

In a collaborative project with Dr Andrew King from the University of Swansea, Dr Leah Williams and Dr Claudia Mettke-Hofmann, built on their previous research which determined how Gouldian finches (*Erythrura gouldiae*), have different personalities according to the colour of their heads. They previously found that red-headed finches were more aggressive, while black-headed birds were bolder and took more risks.

In this new study using behavioural tests that reflect individual 'boldness', they found that Gouldian finches adjusted: where a bird's partner was bolder, it became bolder; where a bird's partner was shyer, it became shyer. This social conformity effect was reduced, however,

when black-headed birds were paired with red-headed birds, in keeping with previous research findings.

Gouldian finches have extremely colourful plumage with either red, black, or – rarely – yellow-coloured heads. They live in open, subtropical woodland, where they nest in loose colonies, feeding mainly on grass seeds.

Dr Claudia Mettke-Hofmann commented on the significance of this work:

"While Gouldian finches show distinct personality traits, these are flexible and can be adjusted to allow for convergence of behaviour, i.e., to move together, rather than independently. When in a group, risk seems to be negotiated resulting in convergence of behaviours. However, the finding that black-headed birds do not adjust to red-headed [birds](#) may indicate a role as producer in exploring new resources. Since variation in personality can promote group cohesion and improve the functioning of social groups in a variety of contexts, we think that head colour could act as a cue, facilitating preferential associations with those of similar or dissimilar personalities in large mobile flocks of Gouldian [finches](#)."

The next stages of the research will involve experiments around collective defence, foraging or predator avoidance and investigations of interaction dynamics in larger social groups. The researchers will also consider how different personalities adopt specific social roles, for example leader-follower dynamics.

More information: "The effects of social conformity on Gouldian finch personality" by Andrew J. King, Leah J. Williams, Claudia Mettke-Hofmann ([DOI: 10.1016/j.anbehav.2014.10.016](https://doi.org/10.1016/j.anbehav.2014.10.016)) in *Animal Behaviour*.

Provided by Liverpool John Moores University

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